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Washington

Basin Outlook Report

May 1, 1993



Basin Outlook Reports

and Federal - State - Private Cooperative Snow Surveys

For more water supply and resource management information, contact:

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How forecasts are made

Most of the annual streamflow in the Western United States originates as snowfall that has accumulated high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points.

Precipitation, temperature, soil moisture and antecedent streamflow data are combined with snowpack data to prepare runoff forecasts. Streamflow forecasts are coordinated by Soil Conservation Service and National Weather Service hydrologists. This report presents a comprehensive picture of water supply conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data, and narratives describing current conditions.

Snowpack data are obtained by using a combination of manual and automated SNOTEL measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation and temperature are monitored on a daily basis and transmitted via meteor burst telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

Forecast uncertainty originates from two sources: (1) uncertainty of future hydrologic and climatic conditions, and (2) error in the forecasting procedure. To express the uncertainty in the most probable forecast, four additional forecasts are provided. The actual streamflow can be expected to exceed the most probable forecast 50% of the time. Similarly, the actual streamflow volume can be expected to exceed the 90% forecast volume 90% of the time. The same is true for the 70%, 30%, and 10% forecasts. Generally, the 90% and 70% forecasts reflect drier than normal hydrologic and climatic conditions; the 30% and 10% forecasts reflect wetter than normal conditions. As the forecast season progresses, a greater portion of the future hydrologic and climatic uncertainty will become known and the additional forecasts will move closer to the most probable forecast.

All programs and services of the USDA Soil Conservation Service are offered on a nondiscriminatory basis, without regard to race, color, national origin, religion, sex, age, marital status, or handicap.

Washington Water Supply Outlook

May 1993

General Outlook

MAY 1, 1993: April showers made an appearance this month. Precipitation was 166% of normal statewide, and varied from 115% of average in the Wenatchee-Chelan Basin to 250% in the Walla Walla Basin. Year-to-date precipitation varies from 110% in the Walla Walla to 69% in the Wenatchee-Chelan Basin. Forecasts for 1993 runoff vary from 100% of average for the Walla Walla River to 61% for the Similkameen River. The snowpack varies from 47% in the Olympic Basin to 114% in the Walla Walla Basin. Washington SNOTEL sites averaged 87% of normal snowpack on May 1, up from 76% on April 1 (by May 7, the statewide average was 88%). April temperatures were near normal and varied from two degrees below in the Yakima Basin to two degrees above in the Olympic Basin. April streamflows varied from 164% of normal on the Lewis River to 54% on the Okanogan River. May 1 irrigation reservoir storage is generally poor throughout the state, with reservoirs in the Yakima Basin at 64% of average and 47% of capacity.

Snowpack

Meltout of the snowpack is progressing at elevations below 5000 feet, but above this elevation, most sites are still showing an increase in water content. Snowpack continues to vary across the state. The Walla Walla River Basin had 114% of average, and the Lewis River had 110% of normal. The North Puget River basins had 63% of average. The Olympic Peninsula rivers were the lowest with 47% of normal. Snowpack along the east slopes of the Cascade Mountains includes the Yakima with 77%, up from 74% last month, and the Wenatchee 69%. Snowpack in the Okanogan is at 83% up from 78%, and the Spokane Basin at 81%, up from 74%. The May 1 SNOTEL reading showed the snowpack to be 87% of average. This year, two of the 38 SNOTEL sites have melted out, last year as many as 15 of the sites had no snow left at this time. Maximum snow cover is at Paradise on Mount Rainier, with a water content of 68.9 inches. This site would normally have 61.8 inches of water content on May 1.

Precipitation








April precipitation reported from National Weather Service stations was 166% of average statewide. The year-to-date precipitation statewide is 81% and varied from 110% of normal in the Walla Walla Basin, to 69% in the Wenatchee-Chelan Basin. April precipitation varied from 115% of average in the Wenatchee-Chelan Basin, to 250% in the Walla Walla Basin. SNOTEL sites in Washington showed high elevation year-to-date precipitation values to be 82%. Maximum year-to-date precipitation was at the June Lake SNOTEL site near Mt. St. Helens, with 120.8 inches since October 1, 1992; normal for this site is 140.7 inches.

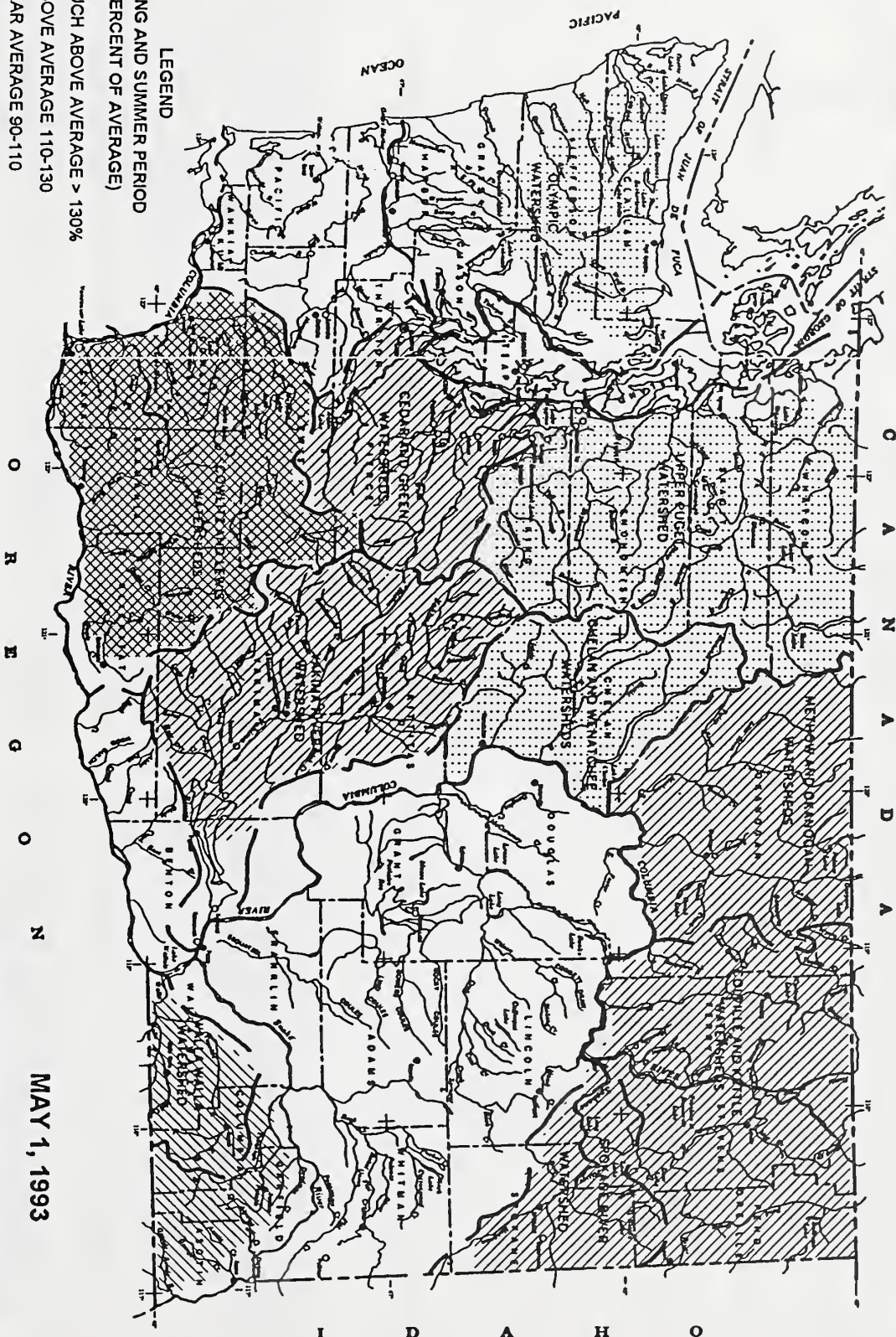
Reservoir

Irrigation reservoir storage in Washington remains below average for May 1. Reservoir storage in the Yakima Basin was 501,400 acre feet, 64% of normal. The Okanogan reservoirs are at 90% of normal for May 1. The power generation reservoirs contain the following: Coeur d'Alene Lake, 240,500 acre feet, or 97% of normal; Chelan Lake, 209,900 acre feet, 47% of average and 31% of capacity, and Ross Lake at 99% of average, and 45% of capacity. Storage at Lake Roosevelt is at 352% of average. It is being kept high for fish flushing.

Streamflow

Forecasts for summer streamflow are for much below-to-near average and vary from 100% of average for the Walla Walla River to 61% of normal for the Similkameen River. May forecasts for some west side streams include: Skagit River, 70%; Lewis River, 70%; and the Elwah River, 70%. Some eastside streams include the Naches River at Naches, 69%; the Stemilt, 80%; the Spokane River, 83% and the Colville River, 93%. April streamflows varied throughout Washington. The Lewis River at 164% was the highest and the Okanogan River with 54%, was the lowest in the state. Other streamflows were the following percentage of normal: the Skagit River, 80%; the Wenatchee River, 65%; the Spokane River, 109%; the Columbia at the Canadian Border, 81%, and the Yakima River at Kiona, 83%.

- LEGEND**
- SPRING AND SUMMER PERIOD
(PERCENT OF AVERAGE)**
-  MUCH ABOVE AVERAGE > 130%
 -  ABOVE AVERAGE 110-130
 -  NEAR AVERAGE 90-110
 -  BELOW AVERAGE 70-90
 -  MUCH BELOW AVERAGE < 70%
 -  NOT FORECAST
 -  WATERSHED BOUNDARY



MAY 1, 1993

MOUNTAIN SNOWPACK

WASHINGTON

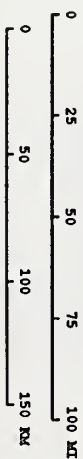
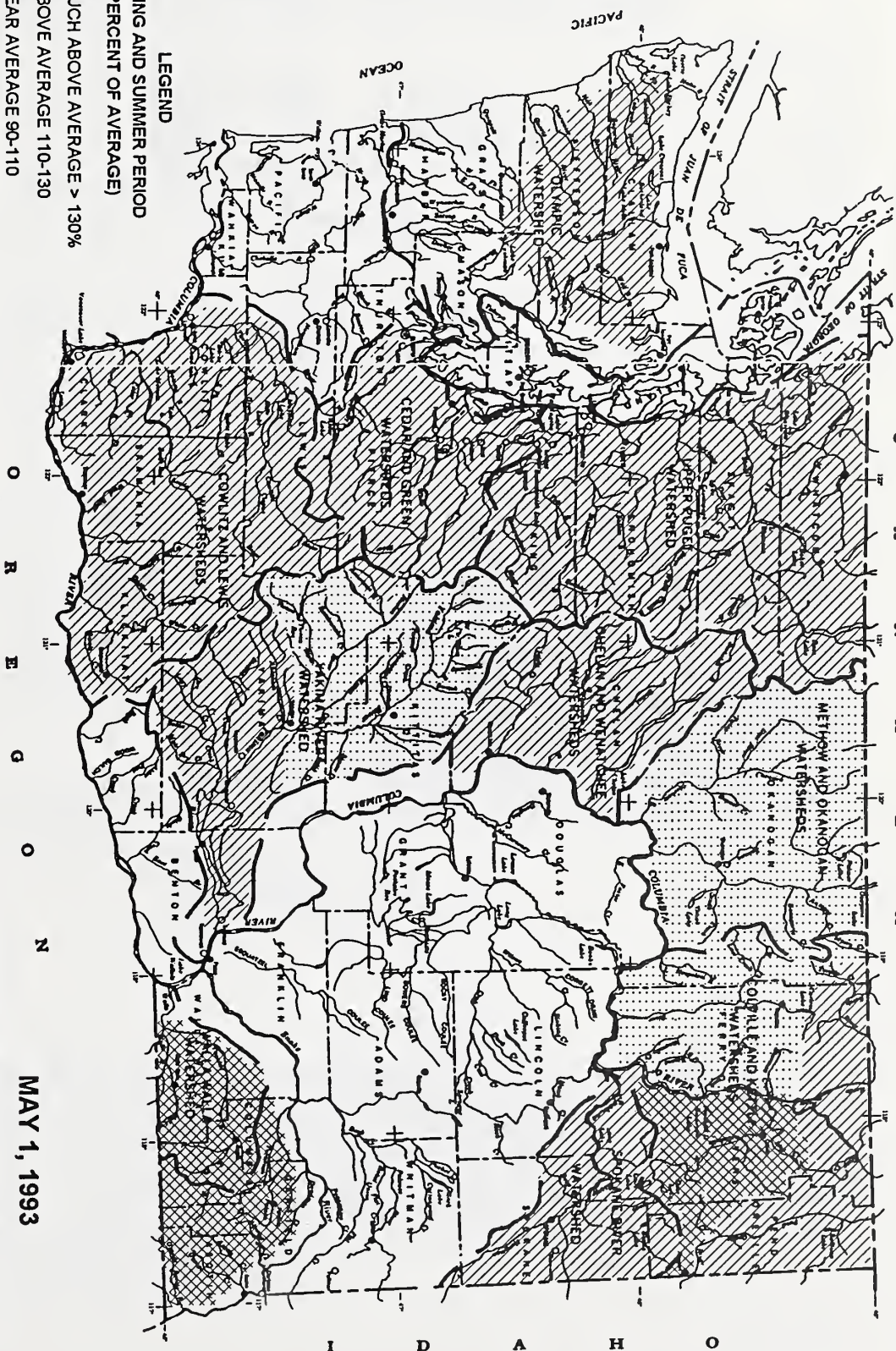
SOURCE: Data compiled by SCS
Field Personnel

BASIN SUMMARY OF SNOW COURSE DATA

MAY 1993

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90	SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90	
PEND OREILLE RIVER							YAKIMA RIVER							
BENTON MEADOW	2370	4/30/93	0	.0	.0	.0	BIG BOULDER CREEK	3200	5/01/93	---	7.5E	--	7.7	
BENTON SPRING	4920	4/30/93	22	10.0	.5	13.6	BLEWETT PASS#2PILLW	4270	5/01/93	---	3.3S	.0	4.9	
BOYER MOUNTAIN	5250	4/29/93	45	19.6	6.8	23.6	BUMPING LAKE	3450	4/30/93	0	.0	--	7.5	
BUNCHGRASS MEADOWS	5000	4/30/93	48	21.0	14.5	26.8	BUMPING LAKE (NEW)	3400	4/30/93	0	.0	--	10.9	
BUNCHGRASS MDWPILLW	5000	5/01/93	---	21.3	15.6	26.9	BUMPING RIDGE PILLW	4600	5/01/93	---	19.8E	8.4	18.9	
HOODOO BASIN	6050	5/01/93	---	35.1E	34.6	51.2	CORRAL PASS PILLW	6000	5/01/93	---	31.7S	27.7	29.5	
HOODOO CREEK	5900	5/01/93	---	32.1E	29.2	47.1	FISH LAKE	3370	4/28/93	19	9.5	--	22.4	
LOOKOUT (d)	5140	5/01/93	---	30.0E	15.4	30.7	FISH LAKE PILLW	3370	5/01/93	---	12.5S	2.2	25.0	
NELSON CAN.	3100	4/26/93	7	3.3	1.7	7.2	GREEN LAKE PILLW	6000	5/01/93	---	20.7S	11.8	19.7	
KETTLE RIVER							GROUSE CAMP PILLW	5380	5/01/93	---	8.8S	.0	9.2	
BARNES CREEK CAN.	5300	4/30/93	49	18.8	16.5	20.5	MORSE LAKE PILLW	5400	5/01/93	---	44.3S	31.5	44.4	
BIG WHITE MTN CAN.	5510	4/28/93	54	16.0	12.2	19.9	OLALLIE MDWS PILLW	3960	5/01/93	---	35.8S	19.3	51.0	
CARMI CAN.	4100	4/28/93	0	.0	.0	1.7	SASSE RIDGE PILLW	4200	5/01/93	---	21.7S	11.7	24.1	
FARRON CAN.	4000	4/28/93	14	5.9	.9	10.4	STAMPEDE PASS PILLW	3860	5/01/93	---	28.3S	14.4	39.1	
GRAYSTOKE LAKE CAN.	5940	4/30/93	49	16.1	9.4	18.1	TUNNEL AVENUE	2450	4/27/93	6	2.6	--	12.7	
MONASHEE PASS CAN.	4500	4/30/93	27	10.1	7.4	12.8	WHITE PASS ES PILLW	4500	5/01/93	---	14.5S	4.5	18.7	
TRAPPING CK LOW CAN.	3050	4/28/93	0	.0	.0	.0	ANTANUM CREEK							
SPOKANE RIVER							GREEN LAKE PILLW	6000	5/01/93	---	20.7S	11.8	19.7	
FOURTH OF JULY SUM	3200	4/28/93	0	.0	.0	.0	MILL CREEK							
LOOKOUT (d)	5140	5/01/93	---	30.0E	15.4	30.7	HIGH RIDGE PILLW	4980	5/01/93	---	14.2S	.0	12.4	
LOST LAKE (d)	6110	5/01/93	---	46.8E	39.3	57.1	TOUCHET #2 PILLW	5530	5/01/93	---	29.7	4.2	27.3	
MOSQUITO RDG PILLW	5200	5/01/93	---	30.5	18.9	34.7	LEWIS - COWLITZ RIVERS							
SUNSET PILLW	5540	5/01/93	---	28.9	16.0	36.5	JUNE LAKE PILLW	3200	5/01/93	---	25.7S	.0	19.6	
NEWMAN LAKE							LOWE PINE PILLW	3800	5/01/93	---	28.3S	.0	26.4	
QUARTZ PEAK PILLW	4700	5/01/93	---	16.8	.0	18.6	PARADISE PARK PILLW	5500	5/01/93	---	68.9S	51.4	61.8	
OKANOGAN RIVER							PIGTAIL PEAK PILLW	5900	5/01/93	---	46.8S	40.8	47.7	
ABERDEEN LAKE CAN.	4300	4/29/93	1	.6	.0	1.7	POTATO HILL PILLW	4500	5/01/93	---	15.7S	.0	17.0	
BLACKWALL PEAK CAN.	6370	5/01/93	---	23.0	22.8	36.3	SHEEP CANYON PILLW	4050	5/01/93	---	18.5S	.0	34.7	
BRENDA MINE CAN.	4800	4/30/93	30	10.3	3.5	9.8	SPENCER MDW PILLW	3400	5/01/93	---	15.5S	.0	17.2	
BROOKHIRE CAN.	3200	4/30/93	0	.0	.0	5.1	SPIRIT LAKE PILLW	3100	5/01/93	---	.0S	.0	.3	
ENDERBY CAN.	6200	5/01/93	104	38.2	27.6	42.9	SURPRISE LKS PILLW	4250	5/01/93	---	39.7S	8.0	36.1	
ESPERON CK. UP CAN.	5410	5/01/93	41	15.9	9.3	17.5	WHITE PASS ES PILLW	4500	5/01/93	---	14.5S	4.5	18.7	
ESPERON CK. MID CAN.	4690	5/01/93	25	10.2	5.0	11.9	WHITE RIVER							
FREZZBOUT CK. TRAIL	3500	4/28/93	1	.7	.0	7.0	CORRAL PASS PILLW	6000	5/01/93	---	31.7S	27.7	29.5	
GREYBACK RES CAN.	5120	4/27/93	25	8.3	.7	7.7	MORSE LAKE PILLW	5400	5/01/93	---	44.3S	31.5	44.4	
HAMILTON HILL CAN.	4890	4/29/93	21	8.1	.0	12.6	GREEN RIVER							
HARTS PASS	6500	4/29/93	84	33.4	29.8	45.1	COUGAR MTN. PILLW	3200	5/01/93	---	.0S	.0	9.3	
HARTS PASS PILLW	6500	5/01/93	---	35.8S	33.4	42.0	GRASS MOUNTAIN #2	2900	5/03/93	0	.0	.0	2.3	
ISINTOK LAKE CAN.	5500	4/28/93	25	7.8	.0	6.3	LESTER CREEK	3100	5/03/93	0	.0	.0	15.0	
LIGHTNING LAKE CAN.	4000	4/30/93	16	5.3	2.0	11.5	LYNN LAKE	4000	5/03/93	18	8.2	.0	10.7	
LOST HORSE MTN CAN.	6300	4/29/93	38	8.9	2.5	10.3	SAMMILL RIDGE	4700	5/03/93	42	19.7	.8	28.2	
MCCULLOCH CAN.	4200	5/02/93	0	.0	.0	2.4	STAMPEDE PASS PILLW	3860	5/01/93	---	28.3S	14.4	39.1	
MISSEZULA MTN CAN.	5090	4/29/93	14	4.5	.0	7.0	TWIN CAMP	4100	5/03/93	27	13.7	.0	--	
MISSION CREEK CAN.	5800	4/30/93	62	22.9	15.6	21.8	CEDAR RIVER							
MONASHEE PASS CAN.	4500	4/30/93	27	10.1	7.4	12.8	SNOQUALMIE RIVER							
MT. KOBAY CAN.	5900	4/28/93	46	14.2	8.9	13.3	OLALLIE MDWS PILLW	3960	5/01/93	---	35.8S	19.3	51.0	
MUTTON CREEK #1	5700	5/01/93	---	8.1E	--	9.6	SKYKOMISH RIVER							
OYAMA LAKE CAN.	4400	4/28/93	7	2.0	.0	3.1	STAMPEDE PASS PILLW	3860	5/01/93	---	28.3S	14.4	39.1	
POSTILL LAKE CAN.	4500	4/30/93	20	6.5	.0	6.4	STEVENS PASS PILLW	4070	5/01/93	---	22.4S	4.3	32.1	
SALMON MDWS PILLW	4500	5/01/93	---	3.9S	.0	1.1	STEVENS PASS SAND SD	3700	4/30/93	31	14.7	--	28.7	
SILVER STAR MTN CAN.	6000	4/25/93	75	31.1	21.1	29.7	SKAGIT RIVER							
SUMMERLAND RES CAN.	4200	4/29/93	13	4.9	.0	6.3	BEAVER CREEK TRAIL	2200	4/28/93	0	.0	5.3	4.1	
SUNDAY SUMMIT CAN.	4300	4/30/93	0	.0	.0	.8	BEAVER PASS	3680	4/29/93	26	12.6	--	28.1	
TROUT CREEK CAN.	4690	4/28/93	9	2.8	.0	4.8	BROWN TOP AM	6000	4/28/93	99	40.6	41.6	61.7	
VASEUX CREEK CAN.	4600	4/28/93	7	2.5	.0	3.0	DEVILS PARK	5900	4/29/93	74	29.2	31.2	45.0	
WHITE ROCKS MTN CAN.	6000	4/30/93	51	19.4	9.7	22.4	FREZZBOUT CK. TRAIL	3500	4/28/93	1	.7	.0	7.0	
METHOW RIVER							HARTS PASS	6500	4/29/93	84	33.4	29.8	45.1	
HARTS PASS	6500	4/29/93	84	33.4	29.8	45.1	HARTS PASS PILLW	6500	5/01/93	---	35.8S	33.4	42.0	
HARTS PASS PILLW	6500	5/01/93	---	35.8S	33.4	42.0	KLESILKWA CAN.	3710	5/02/93	0	.0	.0	8.3	
MUTTON CREEK #1	5700	5/01/93	---	8.1E	--	9.6	LIGHTNING LAKE CAN.	4000	4/30/93	16	5.3	2.0	11.5	
SALMON MDWS PILLW	4500	5/01/93	---	3.9S	.0	1.1	LYMAN LAKE PILLW	5900	5/01/93	---	41.4S	54.5	58.7	
CHELAN LAKE BASIN							MEADOWS CABIN	1900	4/29/93	0	.0	.0	1.1	
LYMAN LAKE PILLW	5900	5/01/93	---	41.4S	54.5	58.7	NEW HOZOMEN LAKE	2800	4/28/93	0	.0	.0	4.5	
MINERS RIDGE PILLW	6200	5/01/93	---	39.5S	38.8	--	RAINY PASS	4780	4/30/93	57	24.2	33.6	40.6	
PARK CK RIDGE PILLW	4600	5/01/93	---	25.6S	26.6	33.6	RAINY PASS PILLW	4780	5/01/93	---	25.5S	34.0	36.8	
RAINY PASS	4780	4/30/93	57	24.2	33.6	40.6	THUNDER BASIN	4200	5/01/93	29	12.2	11.2	21.8	
RAINY PASS PILLW	4780	5/01/93	---	25.5S	34.0	36.8	BAKER RIVER							
ENTIAI RIVER							DOCK BUTTE AM	3800	5/05/93	86	43.9	--	66.8	
POPE RIDGE PILLW	3540	5/01/93	---	1.9S	.0	1.6	EASY PASS AM	5200	5/05/93	114	58.9	--	85.4	
WENATCHEE RIVER							JASPER PASS AM	5400	5/05/93	144	68.7	--	89.3	
BERNE-MILL CREEK (d)	3170	4/30/93	29	13.6	--	20.8	MARTEN LAKE AM	3600	5/05/93	86	42.1	--	75.8	
BLEWETT PASS#2PILLW	4270	5/01/93	---	3.3S	.0	4.9	MT. BLUM AM	5800	5/05/93	138	62.4	--	69.1	
CHIWAUKUM G.S.	2500	4/30/93	0	.0	--	1.0	ROCKY CREEK AM	2100	5/05/93	0	.0	--	19.1	
FISH LAKE PILLW	3370	5/01/93	---	12.5S	2.2	25.0	SCHREIBERS MDW AM	3400	5/05/93	48	24.5	--	56.2	
LYMAN LAKE PILLW	5900	5/01/93	---	41.4S	54.5	58.7	SF THUNDER CK AM	2200	5/05/93	0	.0	--	1.1	
MERRITT	2140	4/30/93	0	.0	--	3.6	WATSON LAKES AM	4500	5/05/93	86	43.9	--	67.2	
STEVENS PASS PILLW	4070	5/01/93	---	22.4S	4.3	32.1	ELWA RIVER							
STEVENS PASS SAND SD	3700	4/30/93	31	14.7	--	28.7	MURRICANE	4500	4/28/93	21	8.7	.0	21.9	
TROUGH #2 PILLW	5310	5/01/93	---	5.6S	.0	2.5	MORSE CREEK							
UPPER WHEELER PILLW	4400	5/01/93	---	8.5S	.0	4.8	COX VALLEY	4500	4/30/93	46	20.6	18.7	39.1	
SQUILCHUCK CREEK							DUNGENESS RIVER							
STEMILT CREEK							DEER PARK	5200	4/27/93	20	8.0	.9	18.7	
UPPER WHEELER PILLW	4400	5/01/93	---	8.5S	.0	4.8	QUILCENE RIVER							
COLOCUM CREEK							MOUNT CRAG PILLW	4050	5/01/93	---	17.9S	.0	--	
TROUGH #2 PILLW	5310	5/01/93	---	5.6S	.0	2.5	WYNOOCHEE RIVER							

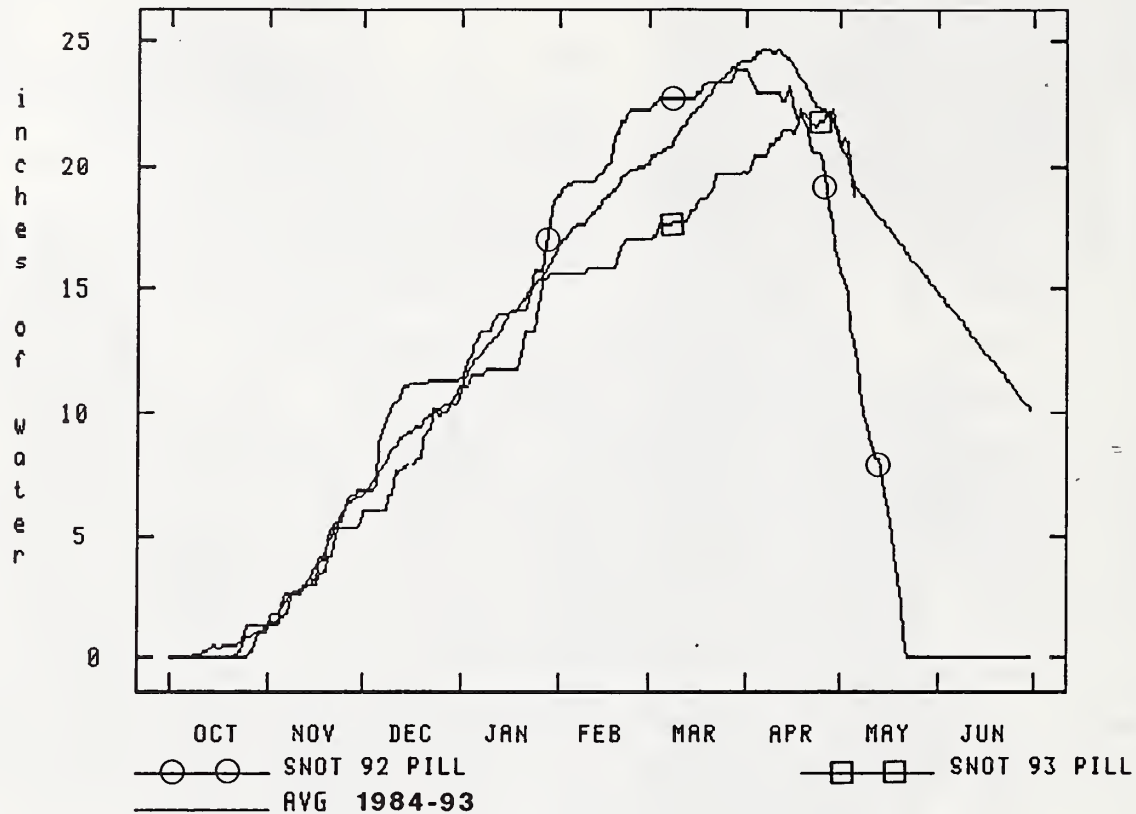
(d) Denotes discontinued site.



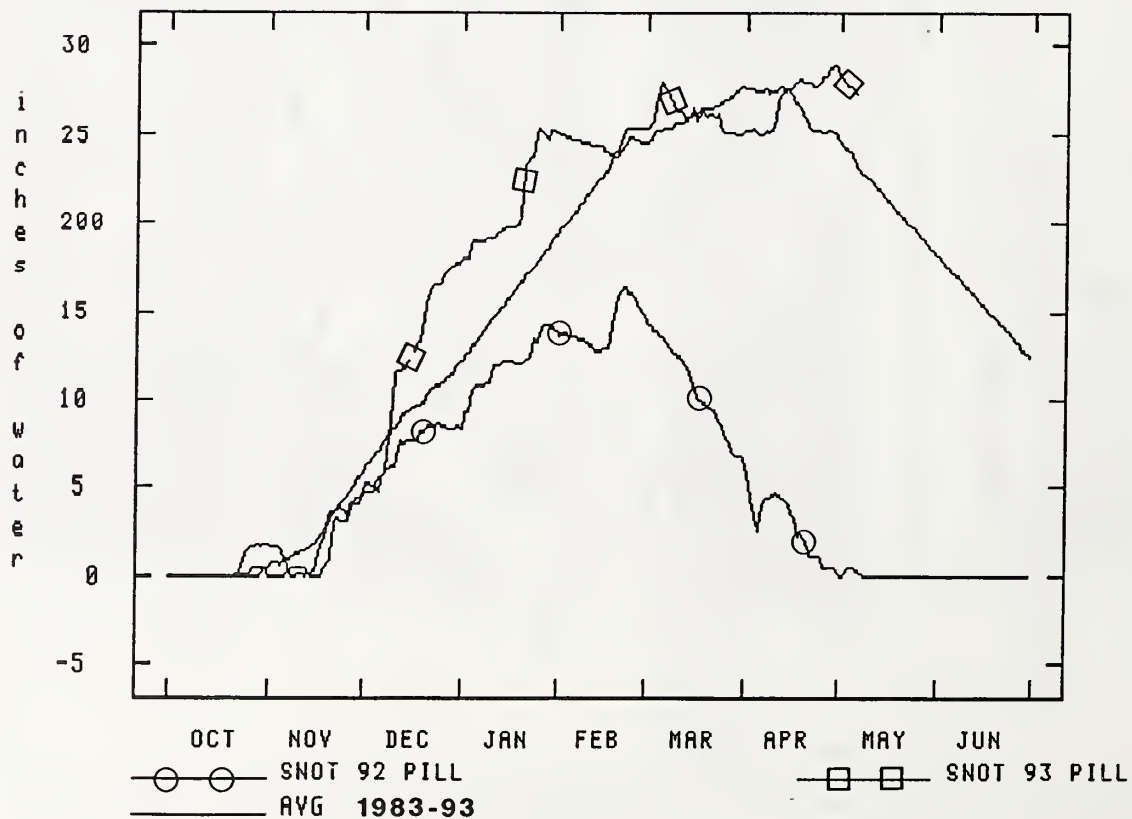
SOURCE: Data compiled by SCS
Field Personnel

Accumulated Snowpack At Selected SNOTEL Stations Washington State

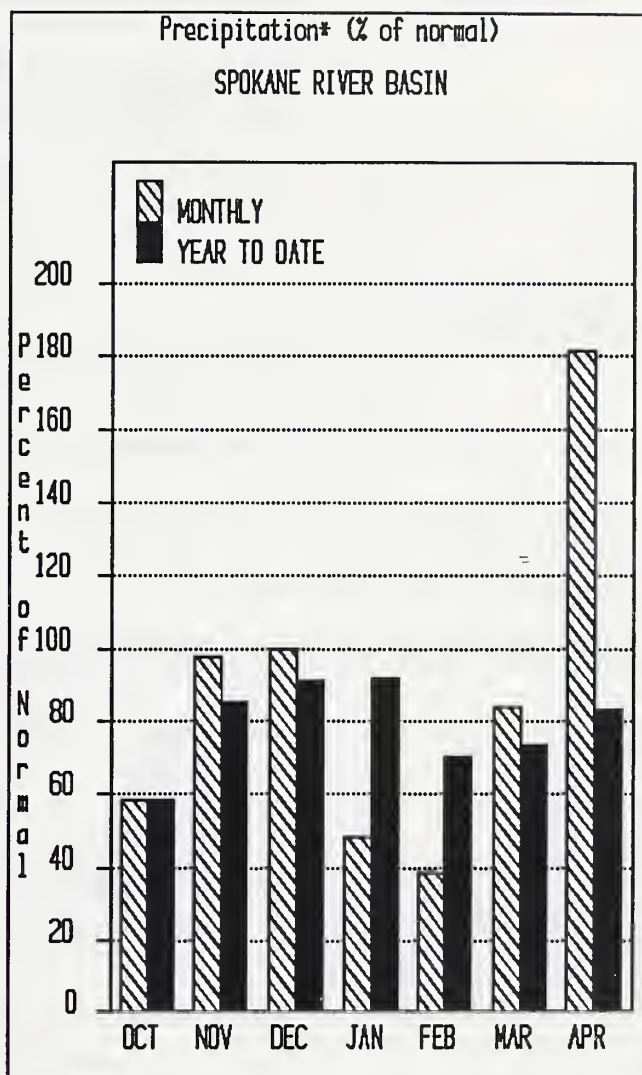
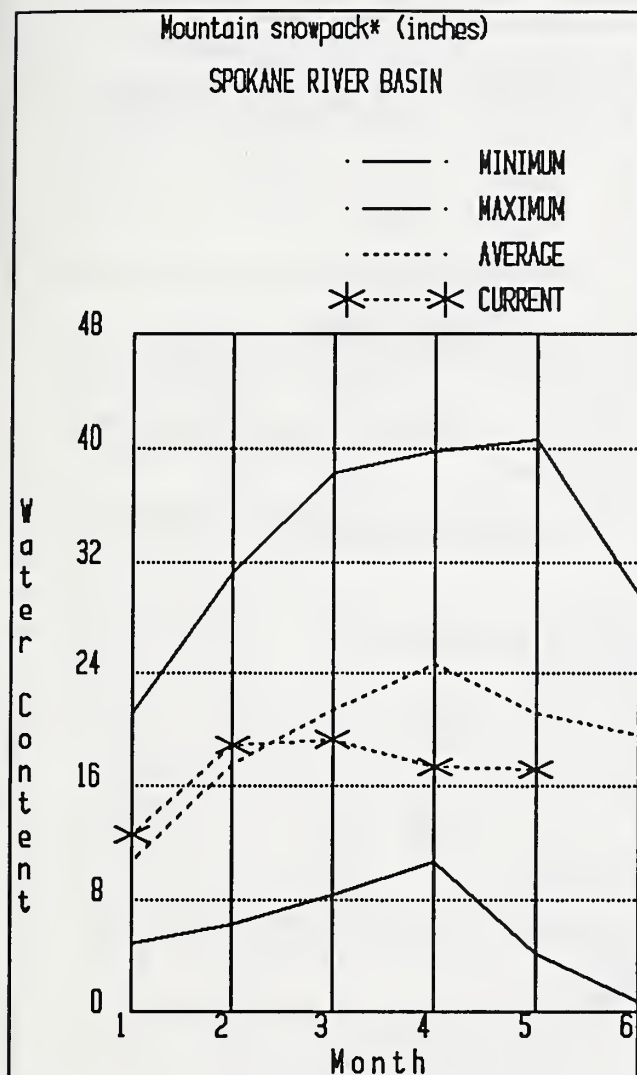
Station : 17A01S, BUNCHGRASS MDW



Station : 21C26S, LONE PINE



Spokane River Basin



*Based on selected stations

Streamflow on the Spokane River was 109% of average for April. Precipitation for April was 182% of average. The May 1 forecasts for summer runoff within the Spokane River Basin are 83%, up from 68% of normal last month. The forecast is based on a snowpack that is 81% of average and a water year-to-date precipitation value of 83% of normal. Temperatures in the basin were one degree below normal during April. May 1 storage in Coeur d'Alene Lake increased to 240,500 acre feet, 97% of normal, and 101% of capacity.

SPOKANE RIVER BASIN

Streamflow Forecasts - May 1, 1993

Forecast Point	Forecast Period	<<----- Drier ----- Future Conditions ----- Wetter ----->>						30-Yr Avg. (1000AF)
		Chance Of Exceeding *						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
SPOKANE nr Post Falls (1,2)	MAY-SEP	925	1350	1540	84	1730	2160	1836
	MAY-JUL	865	1270	1450	83	1630	2040	1743
SPOKANE at Long Lake (2)	MAY-JUL	1180	1450	1640	83	1830	2100	1976

SPOKANE RIVER BASIN Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage ***		
		This Year	Last Year	Avg
COEUR D'ALENE	238.5	240.5	227.3	246.7

SPOKANE RIVER BASIN Watershed Snowpack Analysis - May 1, 1993

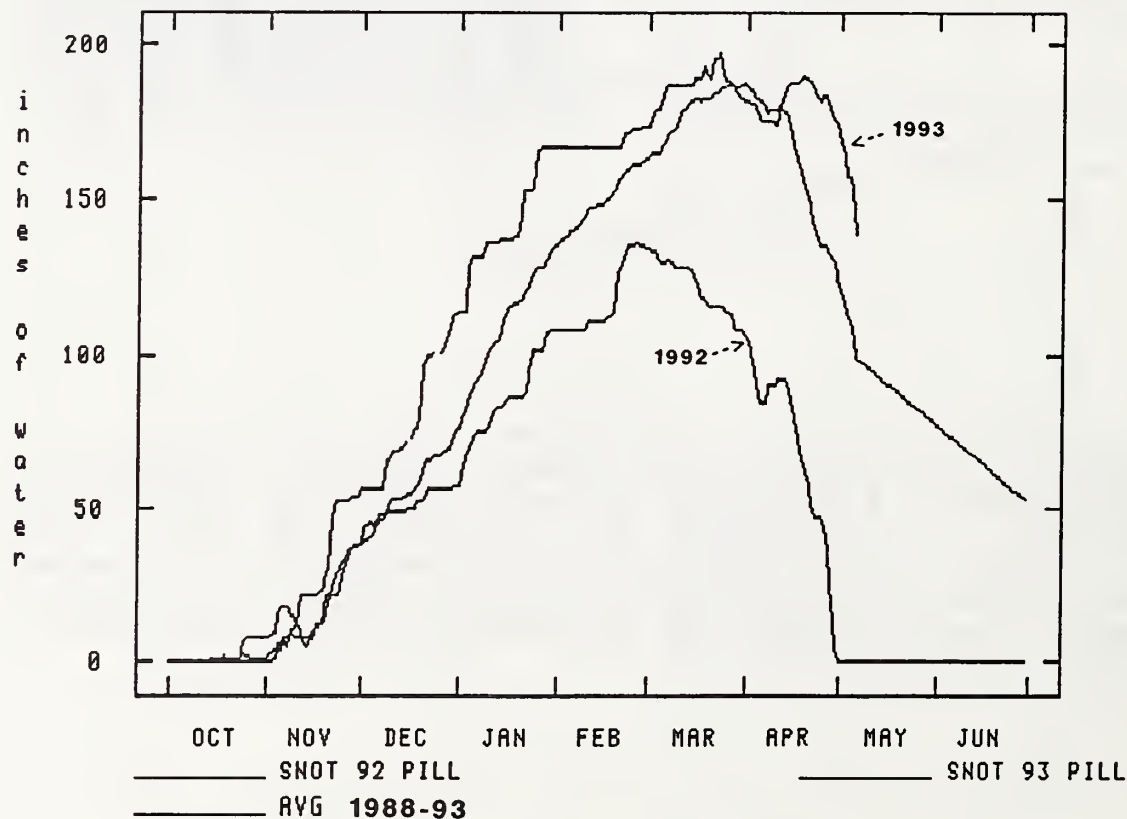
Watershed	Number of Data Sites	This Year as % of	
		Last Yr	Average
Spokane River	8	221	81

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

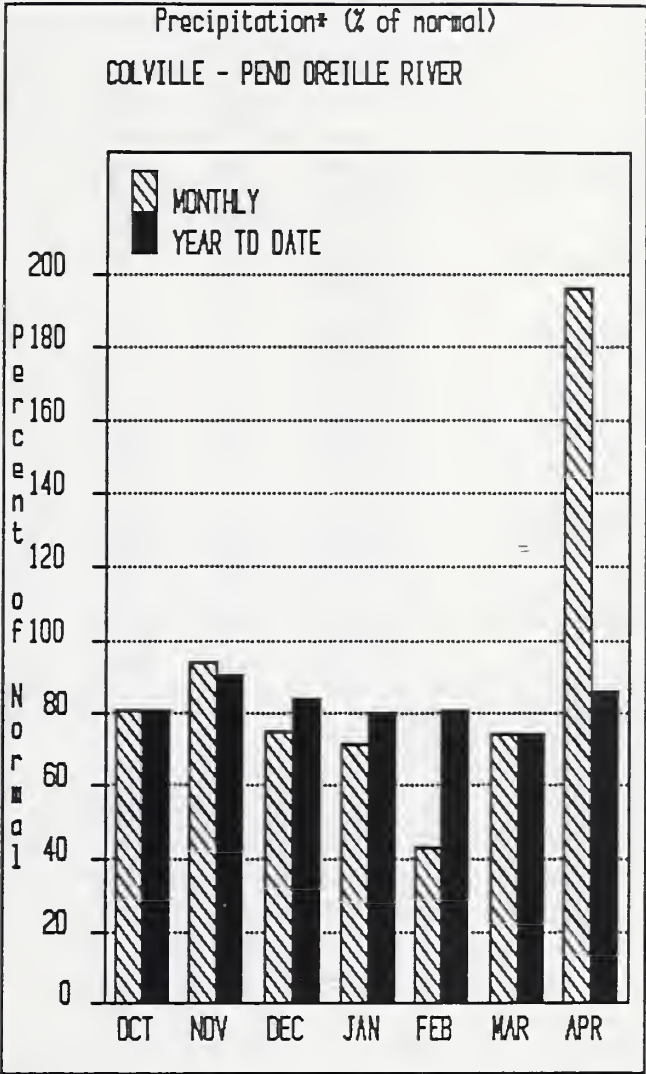
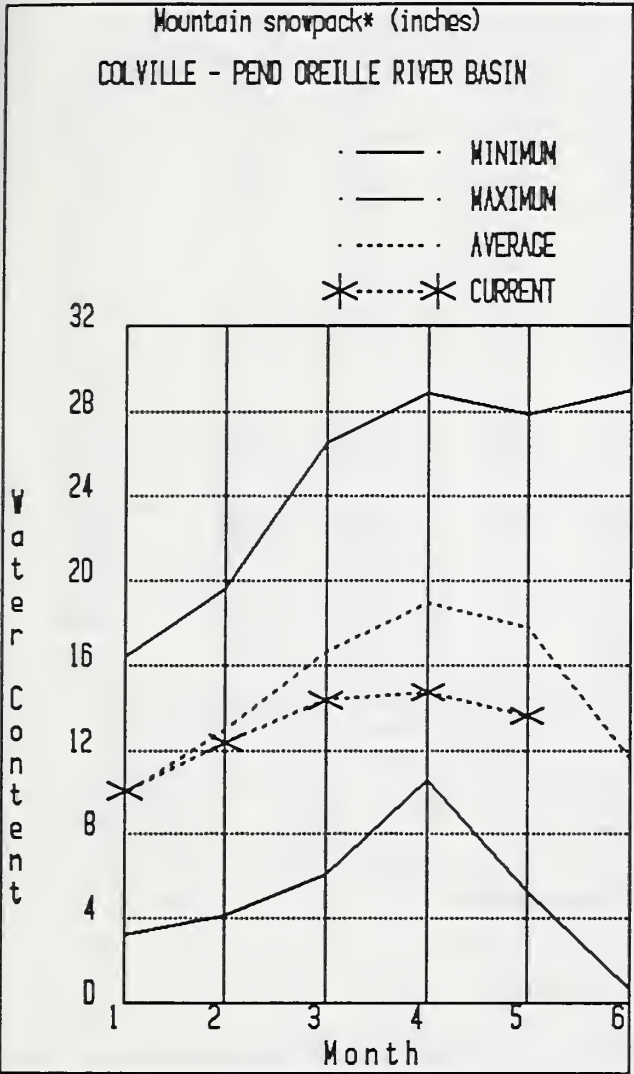
The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural flow - actual flow may be affected by upstream water management.

Station : 17B04S, QUARTZ PEAK



Colville - Pend Oreille River Basins



*Based on selected stations

May 1 snow cover is 76% of normal, up from 70% of average on the Pend Oreille, 93% of average on the Colville River, and 77% on the Kettle River. Precipitation during April was 197% of average, bringing the water year-to-date to 86% of normal. Temperatures were one degree below normal for April. The forecast for the Kettle River streamflow is 87% of normal, the Pend Oreille, 69%, and the Colville River, 93% of normal for the summer runoff period. April streamflow was 81% of normal on the Pend Oreille River, 81% on the Columbia at the International Boundary, and 114% on the Kettle River. Snowpack at Bunchgrass Meadow SNOTEL site was 21.3 inches of water, the average May 1 reading is 26.9.

COLVILLE - PEND OREILLE RIVER BASINS

Streamflow Forecasts - May 1, 1993

Forecast Point	Forecast Period	<<----- Drier ----- Future Conditions ----- Wetter ----->>						30-Yr Avg. (1000AF)
		Chance Of Exceeding *						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
PEND OREILLE bl Box Canyon (1,2)	MAY-SEP	5990	7840	8680	70	9520	11400	12430
	MAY-JUL	5360	7040	7800	70	8560	10200	11220
	MAY-JUN	4560	5960	6590	70	7220	8620	9410
CHAMOKANE CK nr Long Lake	MAY-AUG	3.2	6.0	8.0	85	10.0	12.8	9.4
	JUL-AUG	2.4	2.7	2.8	85	2.9	3.2	3.3
COLVILLE at Kettle Falls	MAY-SEP	55	69	78	93	88	102	84
	MAY-JUL	46	59	68	93	77	90	73
	MAY-JUN	39	51	59	92	67	79	64
KETTLE nr Laurier	MAY-SEP	1080	1250	1370	87	1490	1740	1582
	MAY-JUL	1000	1170	1280	86	1390	1560	1489
	MAY-JUN	885	1030	1130	86	1230	1370	1314
COLUMBIA at Birchbank (1,2)	MAY-SEP	27700	30600	31900	78	33200	36100	40760
	MAY-JUL	21800	24100	25100	78	26100	28400	32090
	MAY-JUN	15400	16900	17640	78	18400	19900	22620
COLUMBIA at Grand Coulee Dm (1,2)	MAY-SEP	39500	43700	45600	79	47500	51700	57850
	MAY-JUL	32700	36100	37700	79	39300	42700	47570
	MAY-JUN	24900	27400	28600	80	29800	32300	35800

COLVILLE - PEND OREILLE RIVER BASINS Reservoir Storage (1000 AF) - End of April

COLVILLE - PEND OREILLE RIVER BASINS Watershed Snowpack Analysis - May 1, 1993

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
ROOSEVELT		NO REPORT			Colville River	0	0	0
BANKS		NO REPORT			Pend Oreille River	8	146	76
					Kettle River	8	148	77

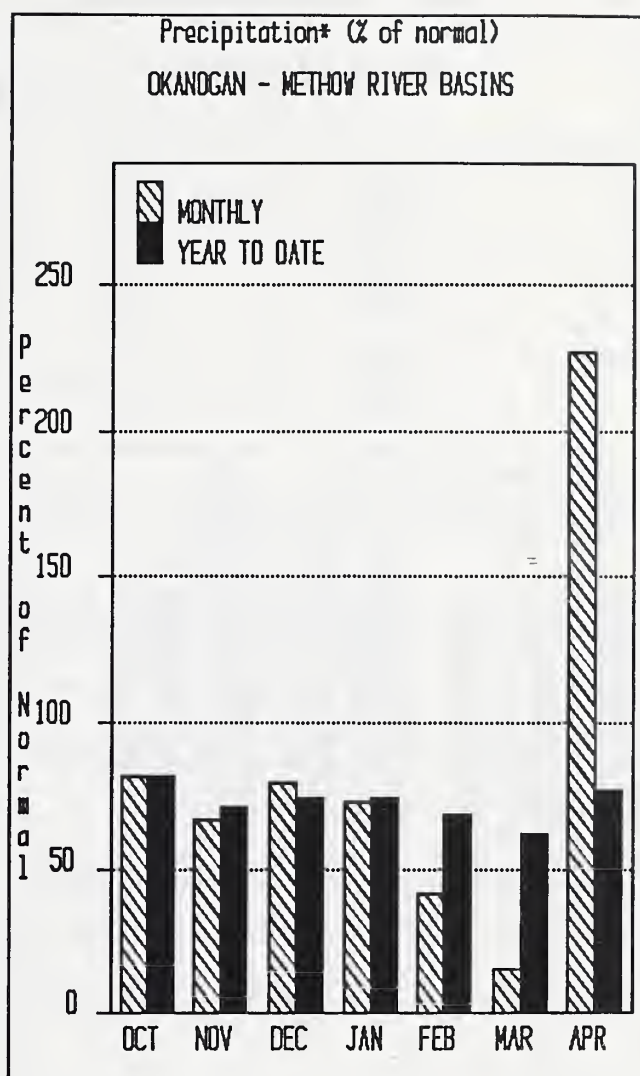
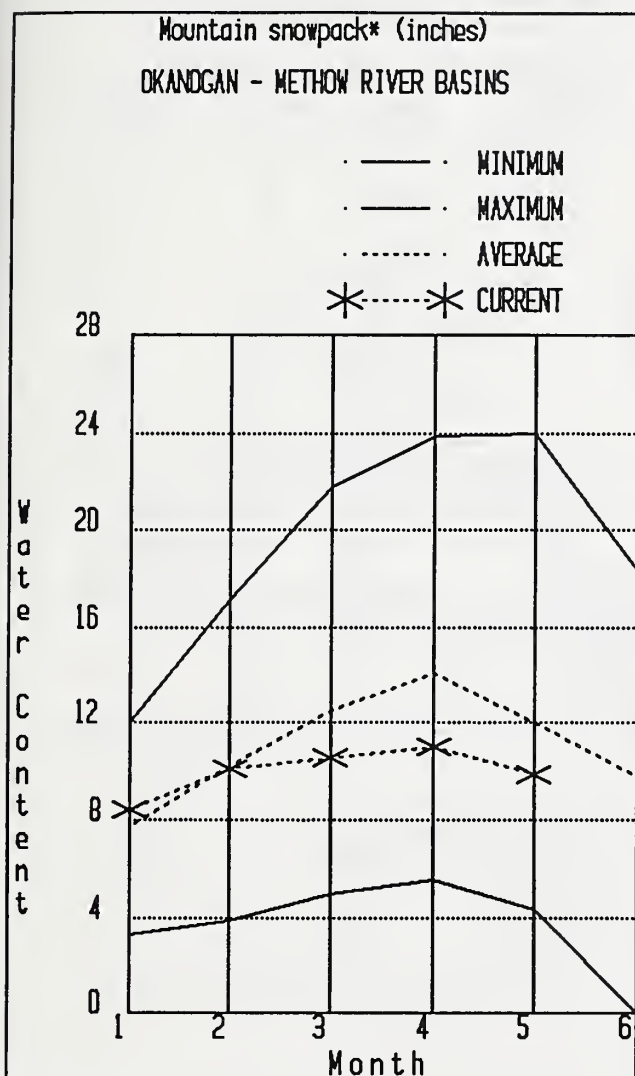
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

Okanogan - Methow River Basins



*Based on selected stations

Summer runoff forecast for the Okanogan River is 69% of normal; the Similkameen River, 61% and the Methow River, 69% of normal. Storage in the Conconully Reservoir is 14,400 acre feet, which is 61% of capacity and 90% of May 1 average. May 1 snow cover on the Okanogan was 83% of normal, up from 78% of average, 92% on the Methow, and 62% on the Similkameen River. April precipitation in the Okanogan-Methow was 227% of normal, with water year-to-date at 77% of average. April streamflow on the Methow River was 65% of normal, 54% on the Okanogan River, and 64% on the Similkameen. Snow water content at the Harts Pass SNOTEL, elevation 6500 feet, was 35.8 inches; normal for this site is 42.0 inches. Temperatures were two degrees above normal for the month.

OKANOGAN - METHOW RIVER BASINS

Streamflow Forecasts - May 1, 1993

Forecast Point	Forecast Period	<<----- Drier ----- Future Conditions ----- Wetter ----->>						
		-----		Chance Of Exceeding *		-----		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
SIMILKAMEEN nr Nighthawk (1)	MAY-SEP	550	715	790	61	865	1030	1300
	MAY-JUL	535	685	750	62	815	965	1205
	MAY-JUN	425	565	630	62	695	835	1014
OKANOGAN RIVER nr Tonasket (1)	MAY-SEP	500	865	1030	69	1200	1560	1485
	MAY-JUL	460	785	930	70	1080	1400	1328
	MAY-JUN	400	650	765	70	880	1130	1095
METHOW RIVER nr Pateros (1)	MAY-SEP	375	515	580	68	645	785	854
	MAY-JUL	350	475	534	68	590	720	786
	MAY-JUN	280	400	455	69	510	630	659

OKANOGAN - METHOW RIVER BASINS Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage ***		
		This Year	Last Year	Avg
CONCONULLY LAKE (SALMON)	10.5	7.7	8.3	8.0
CONCONULLY RESERVOIR	13.0	6.7	8.2	8.0

OKANOGAN - METHOW RIVER BASINS Watershed Snowpack Analysis - May 1, 1993

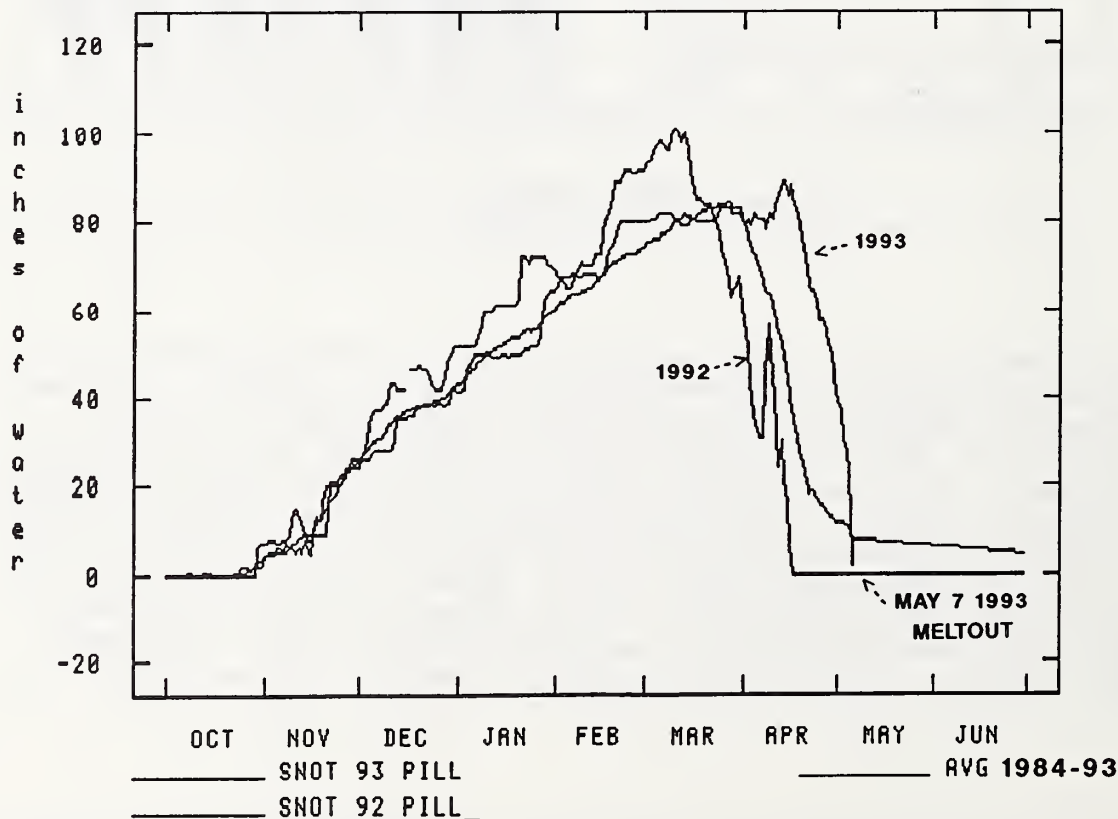
Watershed	Number of Data Sites	This Year as % of	
		Last Yr	Average
Okanogan River	28	176	83
Methow River	2	119	92

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

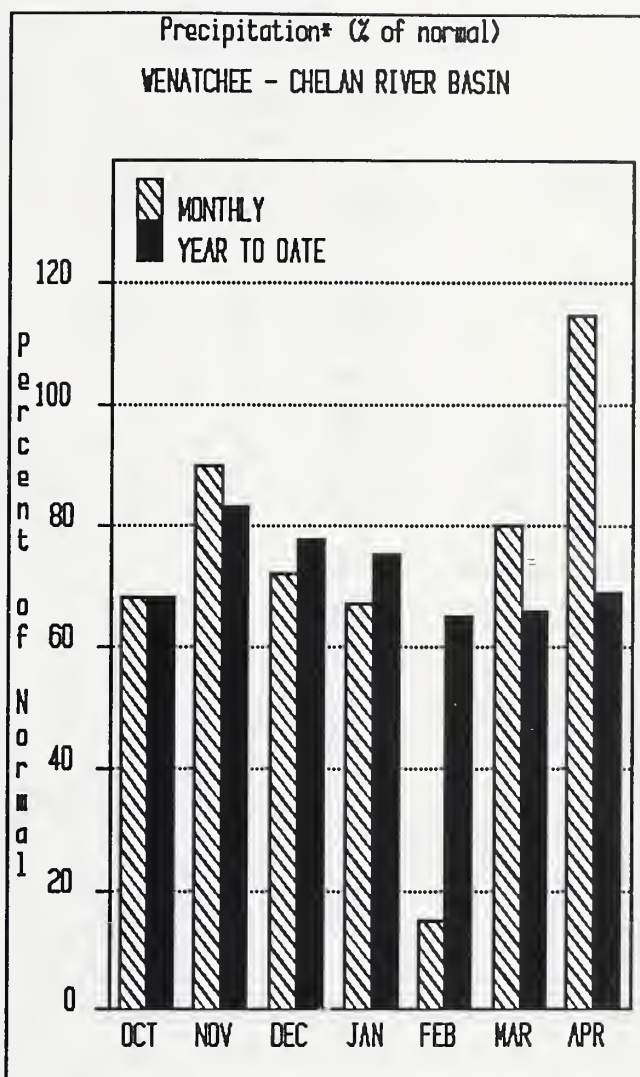
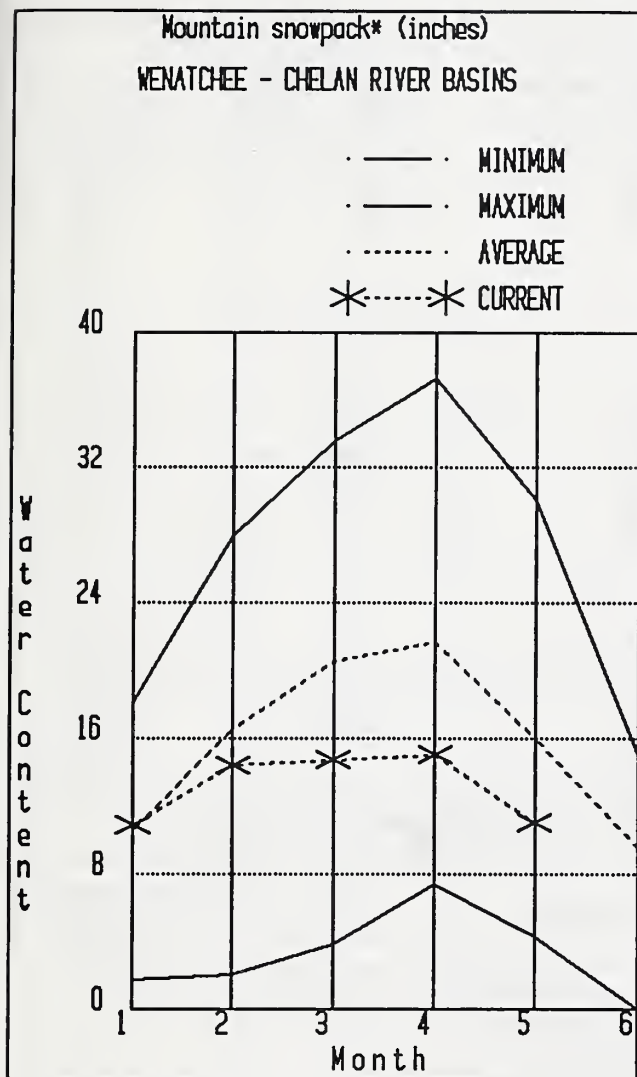
The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural flow - actual flow may be affected by upstream water management.

Station : 19A02S, SALMON MEADOWS



Wenatchee - Chelan River Basins



*Based on selected stations

May 1 snowpack in the Wenatchee Basin is 67% of average; down from 68% and the Chelan Basin is 72%. Precipitation during April was 115% of normal in the basin and 69% for the year to date. The summer forecast for the Chelan River is for 74%, for the Wenatchee River, it is 72%, and 80% on the Squilchuck-Stemilt. Runoff for the Entiat River is forecast to be 74% of normal for the summer. Reservoir storage in Lake Chelan is 209,900 acre feet, or 47% of May 1 average and 31% of capacity. Lyman Lake SNOTEL had the most snow water with 41.4 inches of water; this site would normally have 58.7 inches. Streamflow for April on the Chelan River was 62% of average and on the Wenatchee River it was 65% of normal.

WENATCHEE - CHELAN RIVER BASINS

Streamflow Forecasts - May 1, 1993

Forecast Point	Forecast Period	<<----- Drier ----- Future Conditions ----- Wetter ----->>						30-Yr Avg. (1000AF)
		Chance Of Exceeding *						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
CHELAN RIVER at Chelan (1)	MAY-SEP	565	705	770	74	835	975	1041
	MAY-JUL	490	615	670	74	725	850	905
	MAY-JUN	385	475	520	75	565	655	693
STEHEKIN R. at Stehekin	MAY-SEP	495	540	570	76	600	645	751
	MAY-JUL	410	450	475	76	500	540	625
	MAY-JUN	310	335	355	77	375	400	462
ENTIAT RIVER nr Ardenvoir	MAY-SEP	118	137	150	72	163	182	208
	MAY-JUL	111	128	140	74	152	169	188
	MAY-JUN	87	101	110	73	119	133	150
WENATCHEE R. at Peshastin	MAY-SEP	540	835	1030	72	1230	1520	1428
	MAY-JUL	495	755	930	73	1110	1360	1277
	MAY-JUN	395	595	730	73	865	1070	997
STEMILT nr Wenatchee (miners in)	MAY-SEP	65	92	110	80	128	155	138
ICICLE CREEK nr Leavenworth	APR-SEP	169	240	290	78	340	410	370
	APR-JUL	159	225	270	79	315	380	340
	APR-JUN	127	179	215	80	250	305	270
COLUMBIA R. bl Rock Island Dam (2)	MAY-SEP	42400	46600	49500	79	52400	56600	62910
	MAY-JUL	35400	38900	41300	79	43700	47200	52190
	MAY-JUN	26800	29400	31200	79	33000	35600	39480

WENATCHEE - CHELAN RIVER BASINS Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage ***		
		This Year	Last Year	Avg
CHELAN LAKE	676.1	209.9	262.4	448.8

WENATCHEE - CHELAN RIVER BASINS Watershed Snowpack Analysis - May 1, 1993

Watershed	Number of Data Sites	This Year as % of	
		Last Yr	Average
Chelan Lake Basin	3	80	72
Entiat River	1	0	119
Wenatchee River	6	154	73
Squilchuck Creek	0	0	0
Stemilt Creek	1	0	177
Colockum Creek	1	0	224

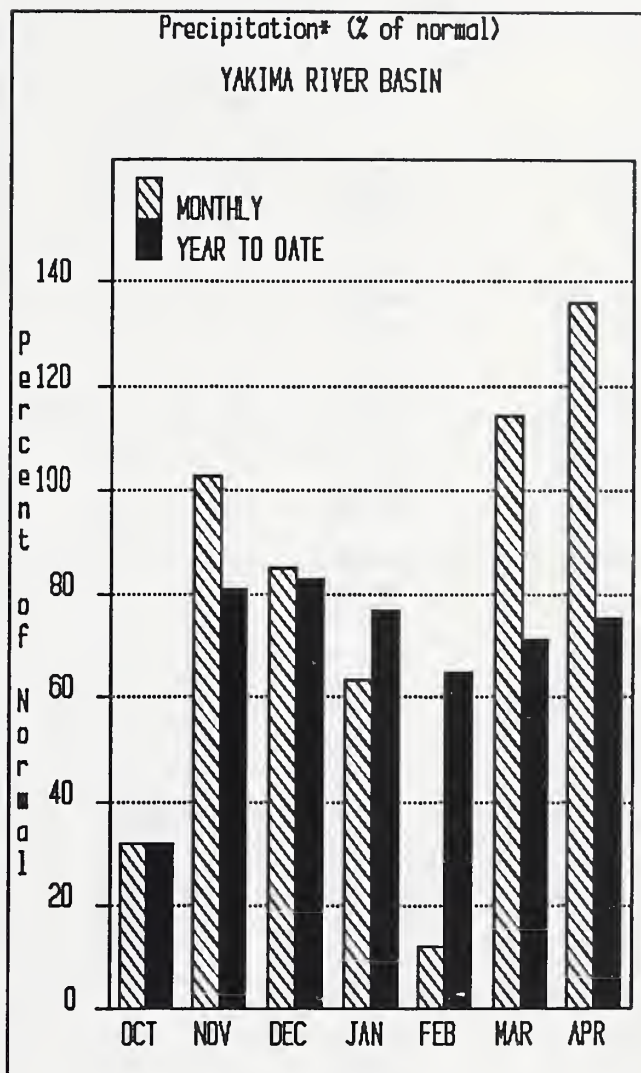
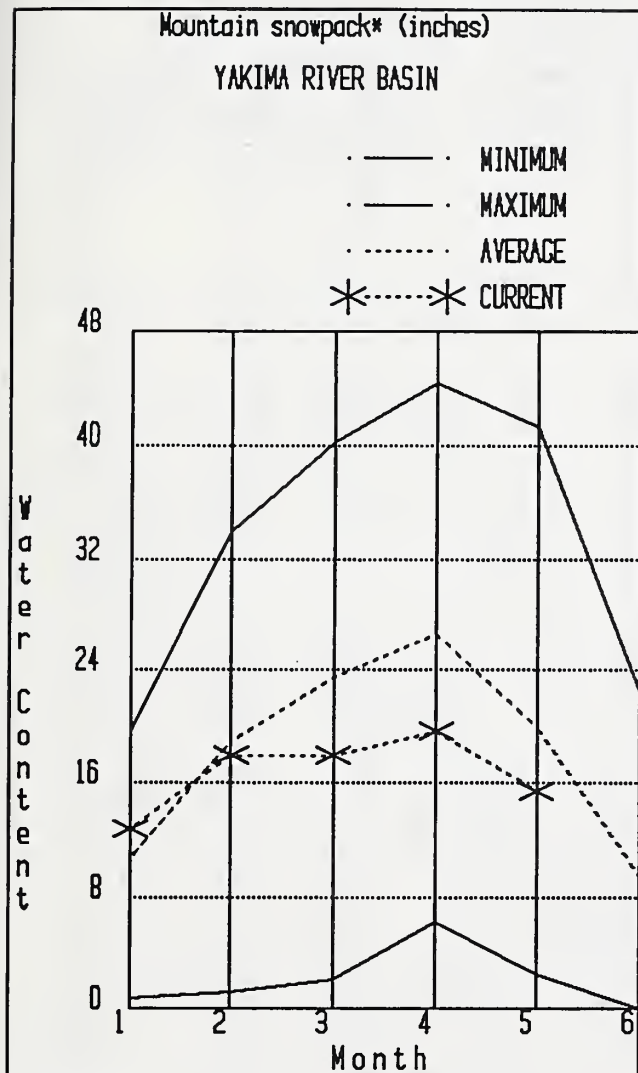
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

Yakima River Basin



*Based on selected stations

May 1 summer streamflow forecasts for the Yakima Basin are for below to much below normal: The Yakima River at Cle Elum, 72%; Naches River, 69%; the Yakima River at Parker, 66%, Ahtanum Creek, 74%, and the Tieton River 70%. May 1 snowpack is 77% of average, up from 74% last month. April precipitation was 136% of normal and 75% for the water year to date. May 1 reservoir storage for the five major reservoirs at 501,400 acre feet, was 64% of average. April streamflows were low, with the Yakima River at Parker 74% of normal, 96% for the Yakima near Cle Elum, and 68% for the Naches River. Temperatures were two degrees below average for April. The snowpack is based upon 11 snow courses and SNOTEL readings. Volume forecasts for the Yakima Basin are for natural flow. As such, they may differ from the U. S. Bureau of Reclamation's forecast for the total water supply available which includes irrigation return flow.

For more information contact your local Soil Conservation Service office.

YAKIMA RIVER BASIN

Streamflow Forecasts - May 1, 1993

Forecast Point	Forecast Period	<<----- Drier ----- Future Conditions ----- Wetter ----->>						30-Yr Avg. (1000AF)
				Chance Of Exceeding *				
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
LAKE KEECHELUS INFLOW	MAY-JUL	49	56	61	64	66	73	96
	MAY-SEP	59	63	67	63	74	84	107
	MAY-JUN	40	47	52	64	57	64	81
KACHESS LAKE INFLOW	MAY-JUL	46	51	55	64	59	64	86
	MAY-SEP	47	54	58	63	62	69	92
	MAY-JUN	37	43	47	64	51	57	74
CLE ELUM LAKE INFLOW	MAY-JUL	200	215	225	66	235	250	339
	MAY-SEP	220	240	250	66	265	280	378
	MAY-JUN	154	171	182	66	193	210	276
YAKIMA RIVER at Cle Elum	MAY-JUN	300	335	360	66	385	420	546
	MAY-JUL	380	410	435	66	460	490	657
	MAY-SEP	415	455	480	65	505	545	740
BUMPING LAKE INFLOW	MAY-SEP	67	77	83	70	89	99	118
	MAY-JUL	62	70	75	70	80	88	107
	MAY-JUN	49	56	61	70	66	73	87
AMERICAN RIVER nr Nile	MAY-SEP	59	65	70	69	75	81	102
	MAY-JUL	54	61	65	71	69	76	92
	MAY-JUN	40	48	53	71	58	66	75
RIMROCK LAKE INFLOW	MAY-SEP	116	135	143	70	151	171	204
	MAY-JUL	103	111	117	70	123	131	167
	MAY-JUN	71	82	90	70	98	109	128
NACHES RIVER nr Naches (2)	MAY-SEP	405	445	475	69	505	545	687
	MAY-JUL	365	400	425	70	450	485	610
	MAY-JUN	265	315	350	69	385	435	506
AHTANUM CREEK nr Tampico (2)	MAY-SEP	20	25	28	74	31	37	38
	MAY-JUL	17.0	22	25	74	28	33	34
	MAY-JUN	15.0	18.0	21	75	24	27	28
YAKIMA near Parker	MAY-SEP	945	1020	1075	68	1130	1200	1580
	MAY-JUL	780	915	960	69	1010	1080	1390
	MAY-SEP	945	1020	1075	68	1130	1200	1580

YAKIMA RIVER BASIN Reservoir Storage (1000 AF) - End of April					YAKIMA RIVER BASIN Watershed Snowpack Analysis - May 1, 1993			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
KEECHELUS	157.8	95.6	129.2	119.0	Yakima River	11	184	85
KACHESS	239.0	107.9	211.1	197.0	Ahtanum Creek	1	175	105
CLE ELUM	436.9	172.9	404.8	308.0				
BUMPING LAKE	33.7	22.2	34.4	15.0				
RIMROCK	198.0	102.4	150.9	144.0				

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

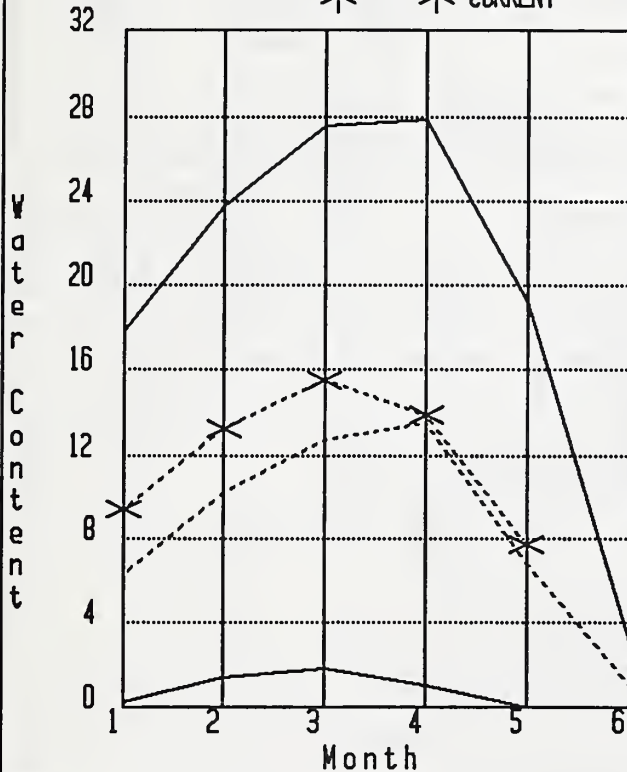
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- (2) - The value is natural flow - actual flow may be affected by upstream water management.

Walla Walla River Basin

Mountain snowpack* (inches)

WALLA WALLA RIVER BASIN

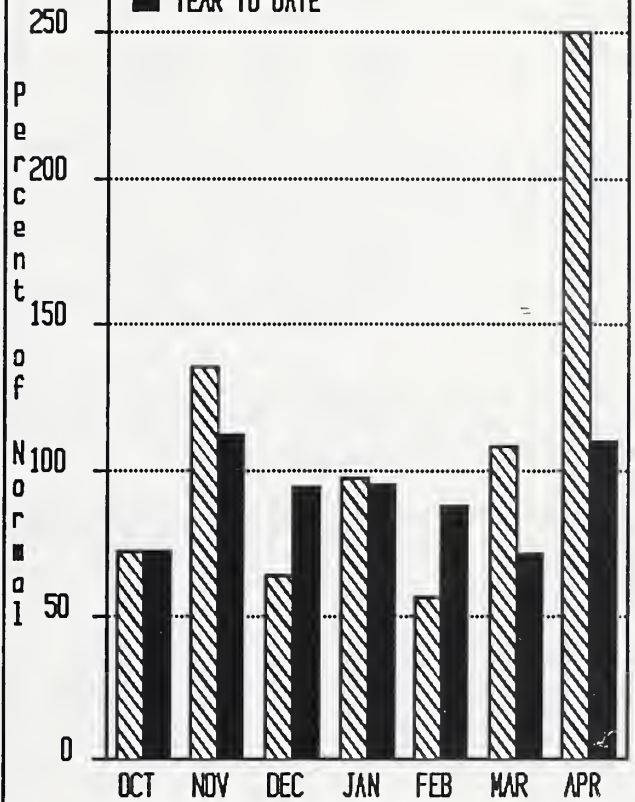
— MINIMUM
— MAXIMUM
... AVERAGE
--- CURRENT



Precipitation* (% of normal)

WALLA WALLA RIVER BASIN

MONTHLY
YEAR TO DATE



*Based on selected stations

April streamflow was 95% of normal on the Walla Walla River, 90% for the Snake River, and 82% on the Grande Ronde River near Troy. May 1 snowpack is at 114% of normal, up from 103% last month. The forecast is for 100% of average streamflow in the Walla Walla River for the coming summer, the Grande Ronde, 99%; Snake River, 80%, and 100% for Mill Creek. April precipitation was 250% of average, bringing the year-to-date precipitation to 110% of normal, the highest in the state. Temperatures were one degree below average for April. The Touchet SNOTEL site has 29.7 inches of water, the normal May 1 reading for this site is 27.3 inches.

For more information contact your local Soil Conservation Service office.

WALLA WALLA RIVER BASIN

Streamflow Forecasts - May 1, 1993

Forecast Point	Forecast Period	<<----- Drier ----- Future Conditions ----- Wetter ----->>						
		-----		Chance Of Exceeding *		-----		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
MILL CREEK at Walla Walla	MAY-SEP	4.3	6.2	7.5	100	8.8	10.7	7.5
	MAY-JUL	4.1	6.0	7.3	100	8.6	10.5	7.3
	MAY-JUN	4.1	5.9	7.1	100	8.3	10.1	7.1
SF WALLA WALLA nr Milton Freewater	MAY-JUL	31	35	37	100	39	43	37
COLUMBIA R. at The Dalles (2)	MAY-SEP	53900	60800	65400	76	70000	76900	85560
	MAY-JUL	44800	50500	54400	76	58300	64000	71360
	MAY-JUN	34800	39200	42200	76	45200	49600	55540

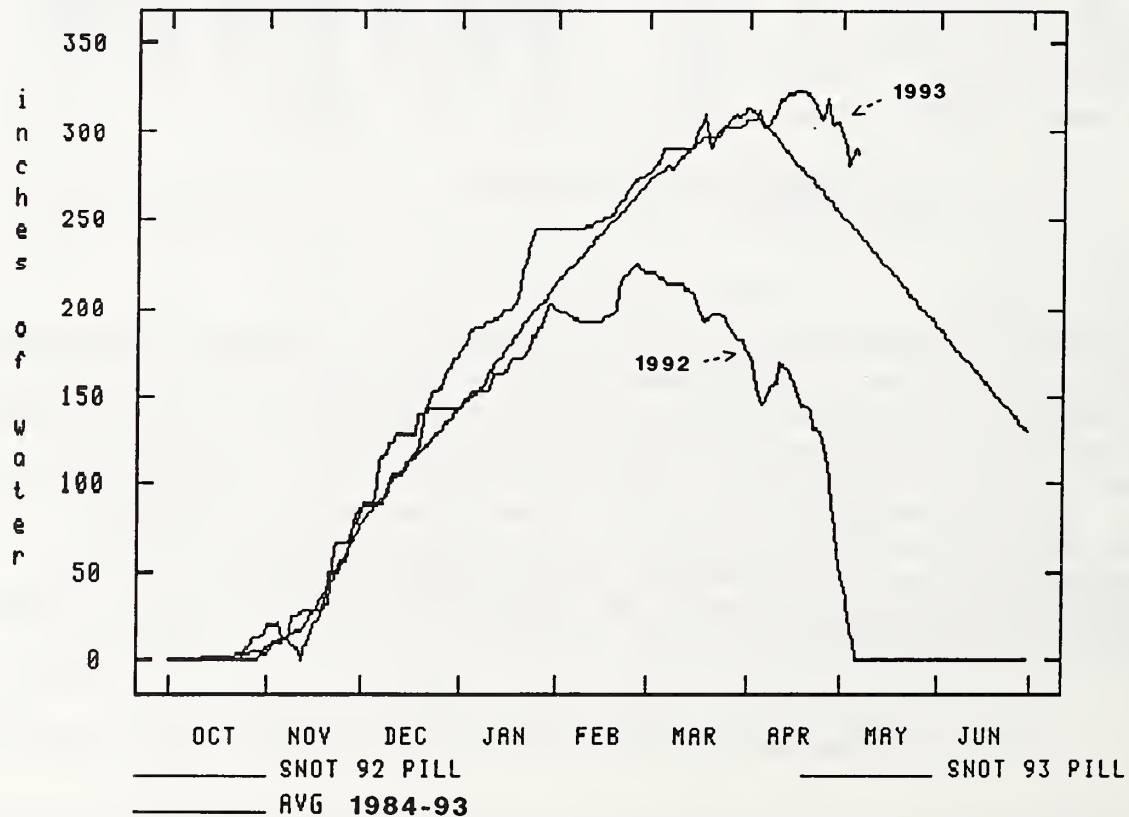
WALLA WALLA RIVER BASIN Reservoir Storage (1000 AF) - End of April					WALLA WALLA RIVER BASIN Watershed Snowpack Analysis - May 1, 1993			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					Mill Creek	2	1045	111

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

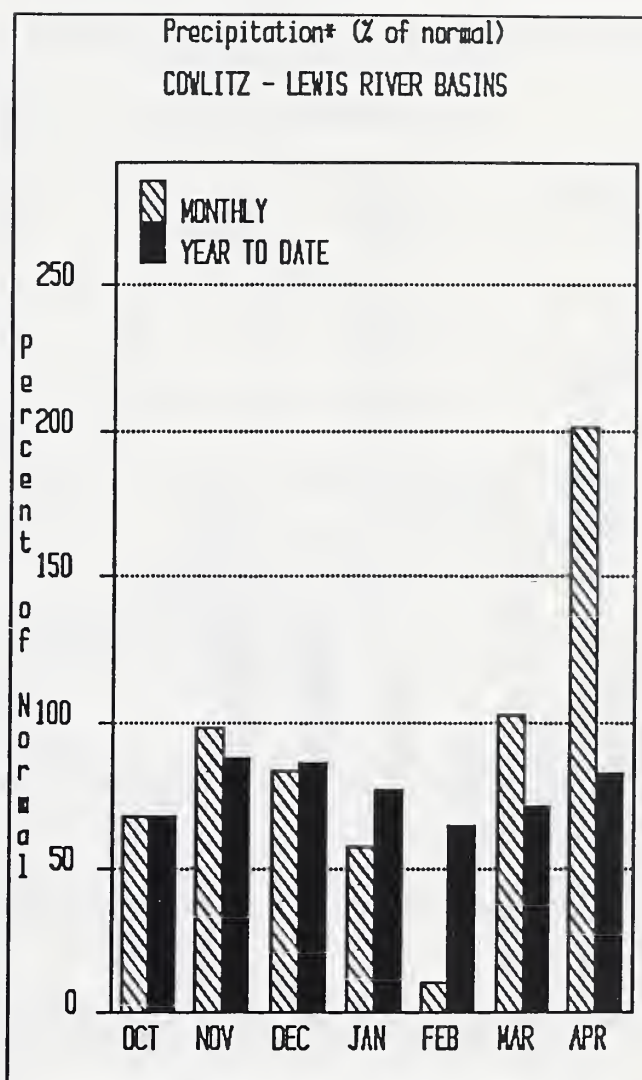
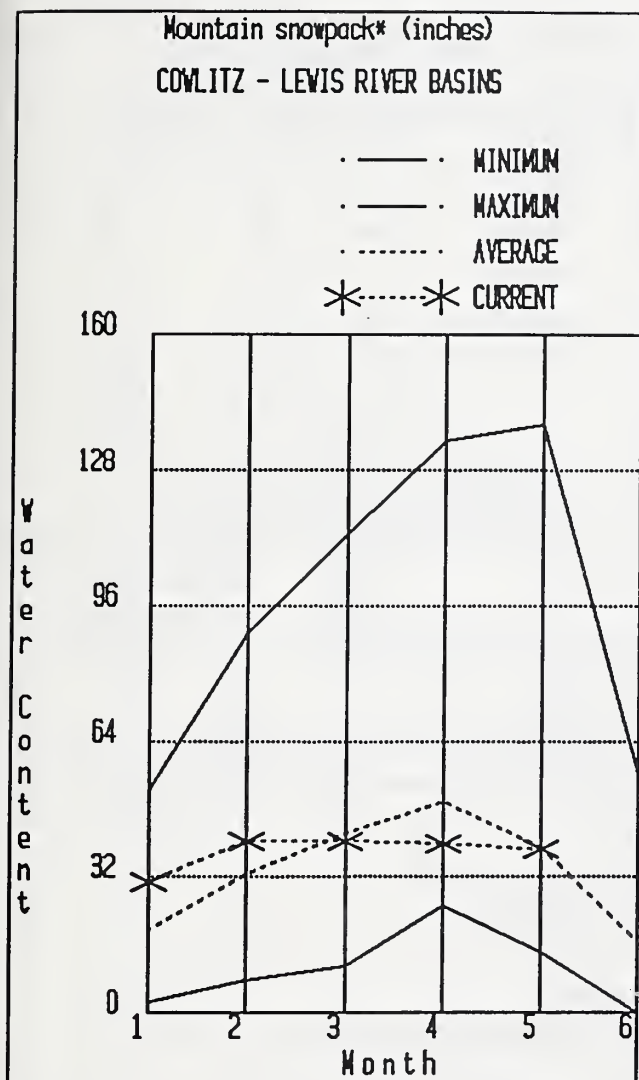
The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural flow - actual flow may be affected by upstream water management.

Station : 17C05S, TOUCHET #2



Cowlitz - Lewis River Basins



*Based on selected stations

The forecast for summer runoff in the Lewis River is 76% and in the Cowlitz River is, 78%. April streamflow on the Cowlitz River was 118% of average, and 164% on the Lewis River. April precipitation was 201% of normal, bringing the water year-to-date precipitation to 82% of average. May 1 snow cover for the Cowlitz River is 103%, and for the Lewis River it is 110%. The Paradise Park SNOTEL contained the maximum water content for the basin with 68.9 inches of water. Normal May 1 water content is 61.8 inches. Temperatures were two degrees above normal for April.

For more information contact your local Soil Conservation Service office.

COWLITZ - LEWIS RIVER BASINS

Streamflow Forecasts - May 1, 1993

Forecast Point	Forecast Period	<<----- Drier ----- Future Conditions ----- Wetter ----->>						30-Yr Avg. (1000AF)
		----- Chance Of Exceeding * -----						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
LEWIS RIVER at Ariel (2)	MAY-SEP	435	560	645	76	730	860	848
	MAY-JUL	360	465	535	77	605	710	696
	MAY-JUN	300	385	445	77	505	590	578
COWLITZ R. bl Mayfield Dam (2)	MAY-SEP	690	880	1195	78	1510	1980	1531
	MAY-JUL	355	745	1010	78	1280	1670	1292
	MAY-JUN	280	595	810	78	1020	1340	1038
COWLITZ R. at Castle Rock (2)	MAY-SEP	870	1210	1615	80	2020	2610	2021
	MAY-JUL	510	1000	1340	80	1680	2170	1679
	MAY-JUN	410	810	1080	80	1350	1750	1349

COWLITZ - LEWIS RIVER BASINS Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage ***		
		This Year	Last Year	Avg

COWLITZ - LEWIS RIVER BASINS Watershed Snowpack Analysis - May 1, 1993

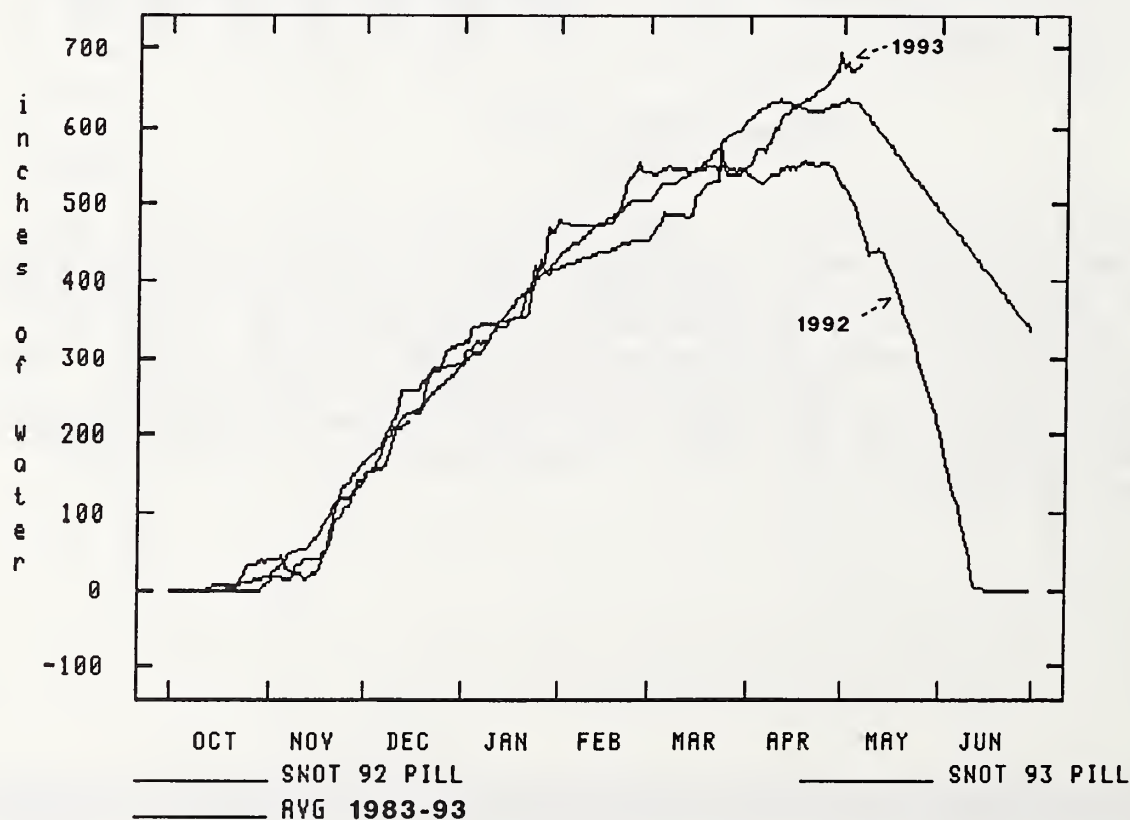
Watershed	Number of Data Sites	This Year as % of	
		Last Yr	Average
Cowlitz River	6	170	91
Lewis River	4	1365	110

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

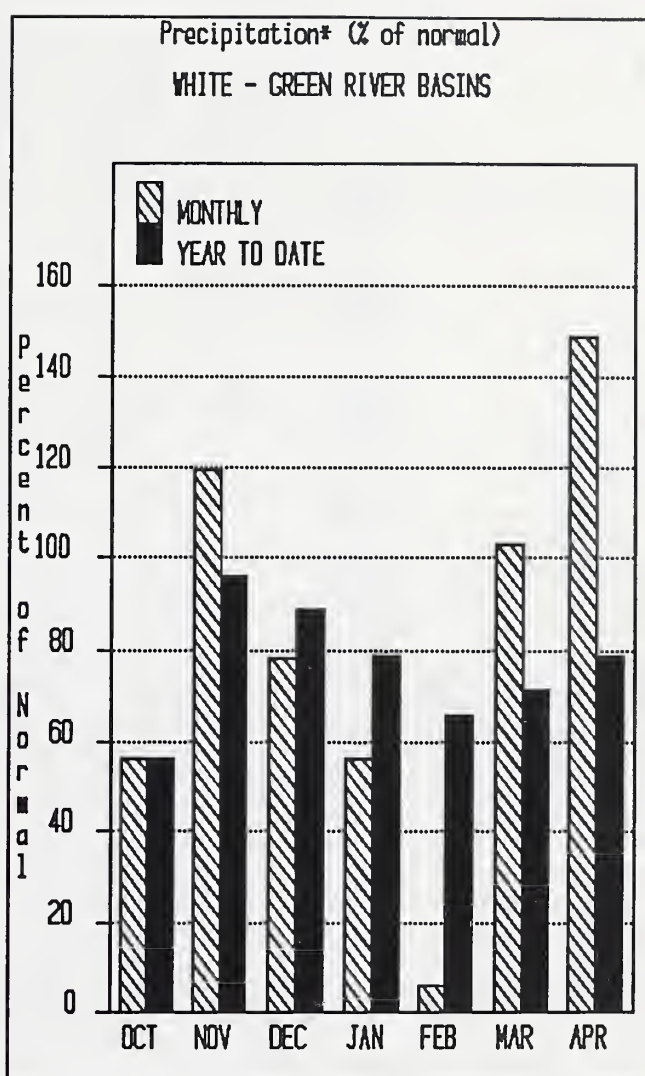
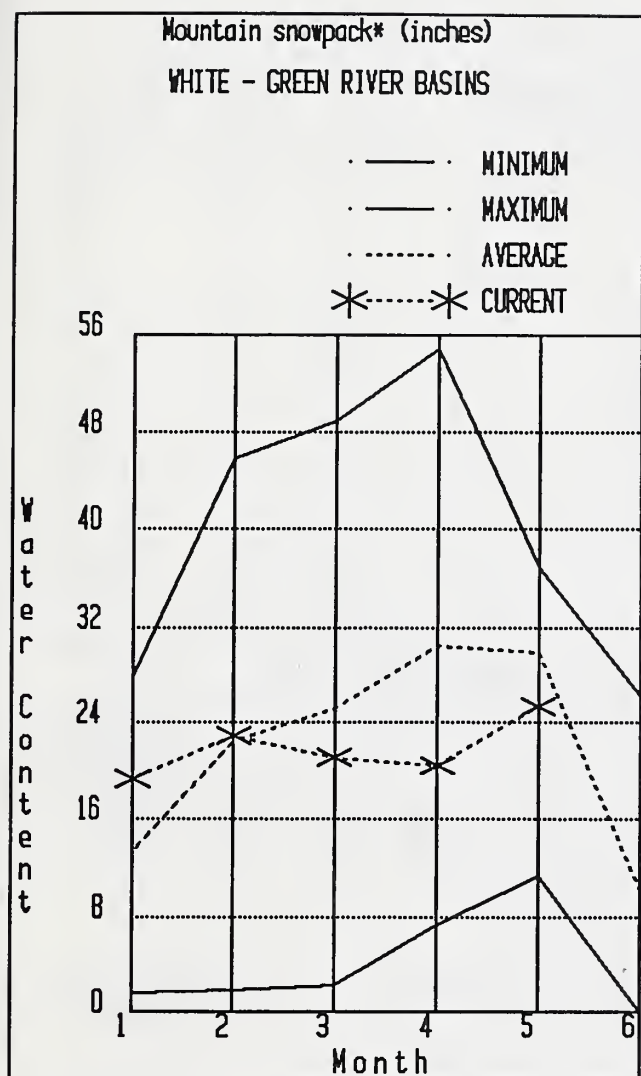
The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural flow - actual flow may be affected by upstream water management.

Station : 21C35S, PARADISE



White - Green River Basins



*Based on selected stations

May 1 snowpack was 103% of normal in the White River Basin and 58% in the Green River Basin. April precipitation was 149% of normal, bringing the water-year-to-date to 79% of average. Temperatures were one degree above average for April. Summer runoff is forecasted to be 71% on the Green River and 73% on the Cedar River, the Rex River at 72%, the South Fork of the Tolt River at 80% and the Cedar River at Cedar Falls, 72%. Water content on May 1 at the Stampede Pass SNOTEL, at an elevation of 3860 feet, was 28.3 inches. This site has a May 1 average of 39.1 inches.

For more information contact your local Soil Conservation Service office.

WHITE - GREEN RIVER BASINS

Streamflow Forecasts - May 1, 1993

Forecast Point	Forecast Period	<<----- Drier ----- Future Conditions ----- Wetter ----->>						30-Yr Avg. (1000AF)
		Chance Of Exceeding *						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	
GREEN RIVER below Howard Hanson Dam	MAY-JUL	106	119	128	75	137	150	170
	MAY-SEP	124	139	149	75	159	174	198
	MAY-JUN	101	106	110	75	114	119	147
CEDAR RIVER near Cedar Falls	MAY-JUL	28	36	41	73	47	55	56
	MAY-SEP	28	39	47	73	55	66	64
	MAY-JUN	25	31	35	74	39	45	47
REX RIVER nr Cedar Falls	MAY-JUL	9.4	12.5	14.5	76	16.5	19.6	19.2
	MAY-SEP	11.0	14.0	17.0	75	19.0	22	22
	MAY-JUN	8.7	11.1	12.8	76	14.5	16.9	16.8
CEDAR RIVER at Cedar Falls	MAY-JUL	9.0	27	40	74	53	71	54
	MAY-SEP	4.0	26	41	74	55	77	55
	MAY-JUN	16.0	30	39	75	48	62	52
SOUTH FORK TOLT RIVER near Index	MAY-JUL	6.6	8.1	9.1	80	10.1	11.6	11.4
	MAY-SEP	7.9	9.8	11.1	80	12.4	14.3	13.9
	MAY-JUN	5.4	6.6	7.4	80	8.2	9.4	9.3

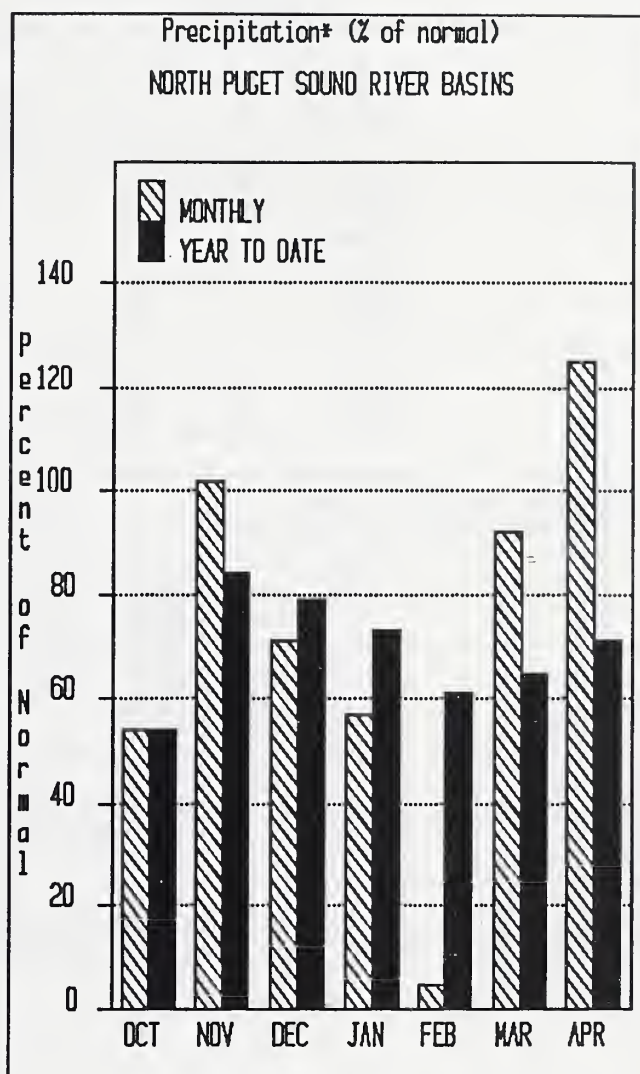
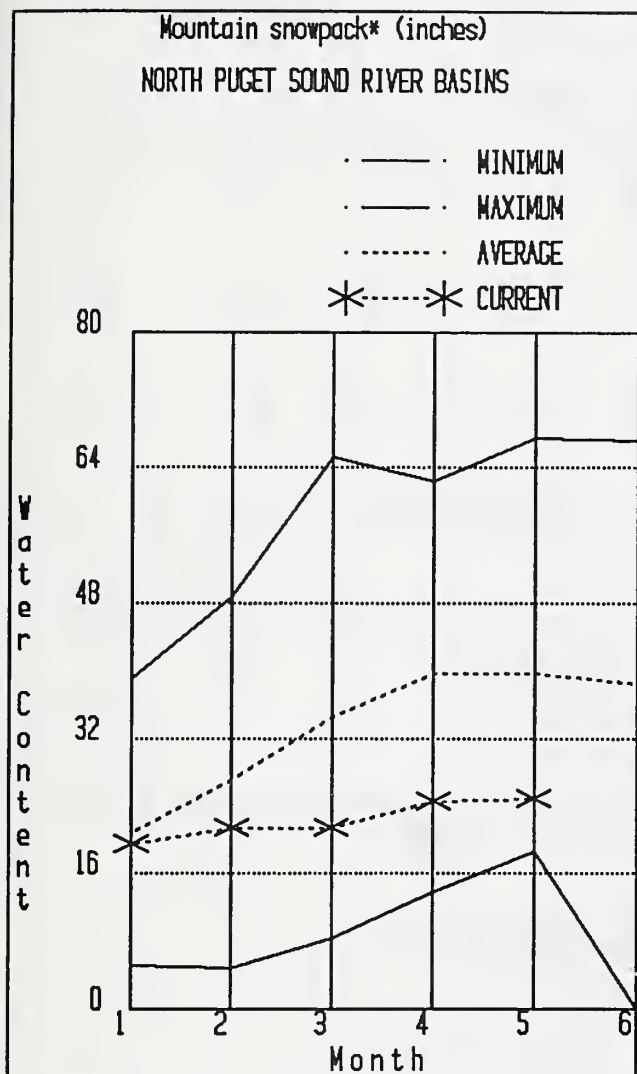
WHITE - GREEN RIVER BASINS Reservoir Storage (1000 AF) - End of April					WHITE - GREEN RIVER BASINS Watershed Snowpack Analysis - May 1, 1993			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					White River	2	128	103
					Green River	2	197	58
					Cedar River	0	0	0

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

North Puget Sound River Basins



*Based on selected stations

Forecast for the Skagit River streamflow is 70% of normal for the spring and summer period. Other forecast points include the Baker River at 76% and Thunder Creek at 79%. April temperatures were one degree above normal. Precipitation for April was 125% of average with a water-year-to-date at 71% of normal. May 1 snow cover in the Skagit River was 63% of normal. April streamflow in the Skagit River was 80% of average. Rainy Pass SNOTEL, at elevation 4780 feet, had 25.5 inches of water content; normal May 1 water content is 36.8 inches. May 1 reservoir storage was above average, with Ross Lake Reservoir at 99% of normal and 45% of capacity.

NORTH PUGET SOUND RIVER BASINS

Streamflow Forecasts - May 1, 1993

Forecast Point	Forecast Period	<<----- Drier ----- Future Conditions ----- Wetter ----->>						30-Yr Avg. (1000AF)
		-----		Chance Of Exceeding *		-----		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
THUNDER CREEK near Newhalem	MAY-JUL	136	150	160	77	170	184	209
	MAY-SEP	215	225	235	76	245	255	308
	MAY-JUN	78	90	99	77	108	121	129
SKAGIT RIVER at Newhalem (2)	MAY-SEP	1060	1250	1370	70	1490	1680	1963
	MAY-JUL	890	1040	1140	71	1240	1390	1608
	MAY-JUN	635	765	855	72	945	1080	1188
BAKER RIVER near Concrete	MAY-JUL	450	500	535	76	570	620	703
	MAY-SEP	585	660	710	76	760	835	930
	MAY-JUN	285	330	365	76	400	445	478

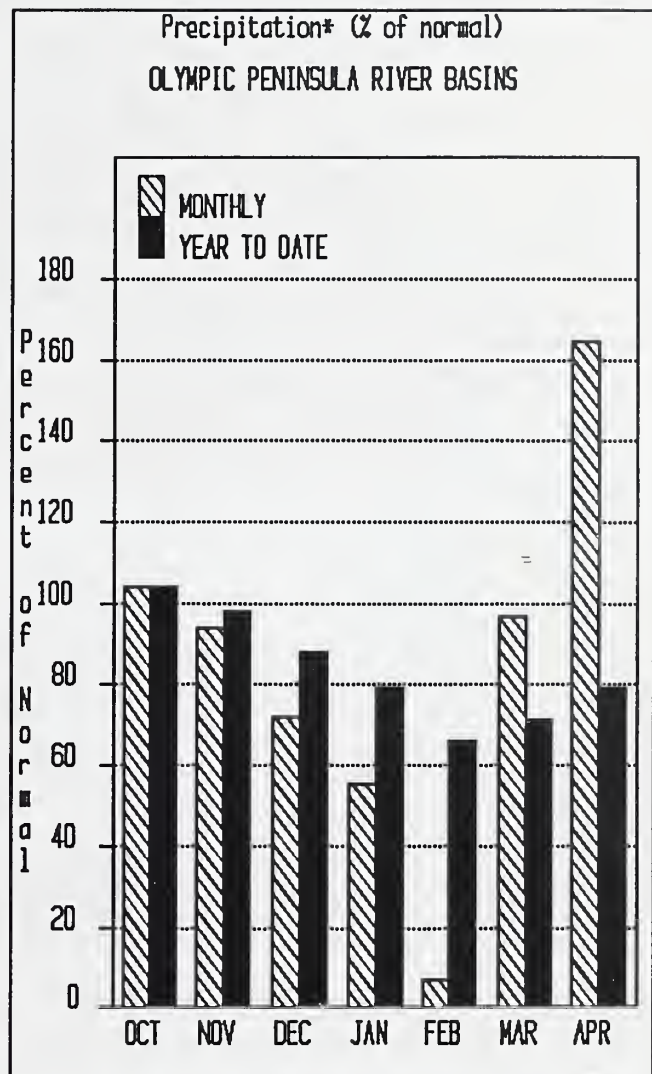
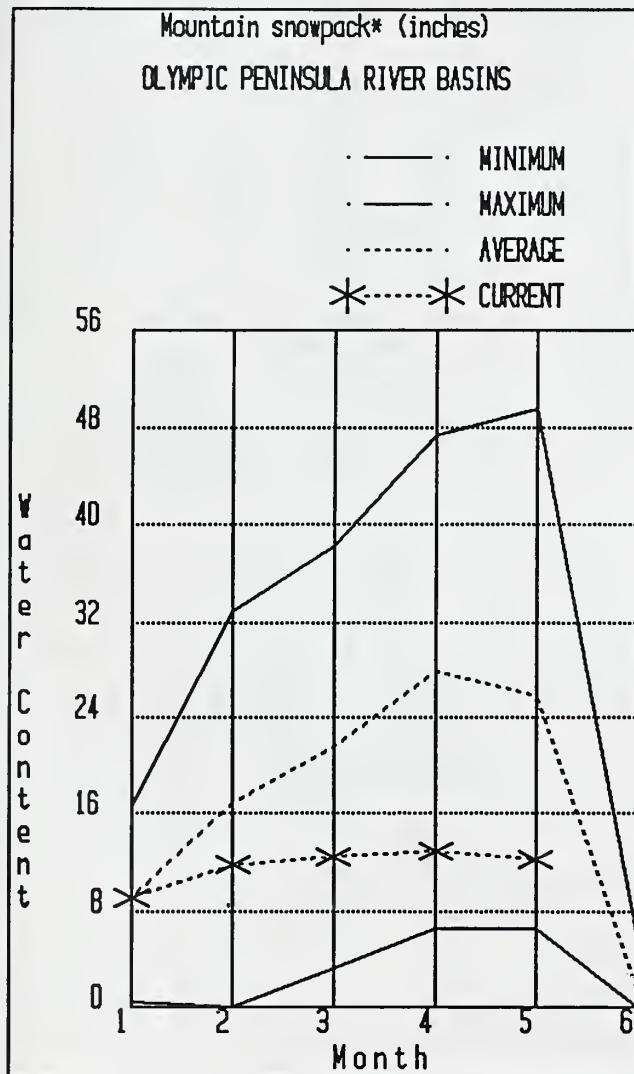
NORTH PUGET SOUND RIVER BASINS Reservoir Storage (1000 AF) - End of April					NORTH PUGET SOUND RIVER BASINS Watershed Snowpack Analysis - May 1, 1993			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of -----	
		This Year	Last Year	Avg			Last Yr	Average
ROSS	1404.1	636.2	827.6	644.4	Snohomish River	3	228	71
DIABLO RESERVOIR	90.6	87.6	86.6	---	Skagit River	12	89	63
GORGE RESERVOIR	9.8	8.1	8.0	---	Baker River	0	0	0

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural flow - actual flow may be affected by upstream water management.

Olympic Peninsula River Basins



*Based on selected stations

May runoff forecasts for streamflow in the Olympic Basin are for 70% of average on the Dungeness and Elwha Rivers. The Big Quilcene can expect below normal runoff this summer. April precipitation was 165% of average, with water year-to-date precipitation accumulation at 79% of normal. April precipitation at Quillayute was 12.25 inches, normal for the month is 7.15 inches. May 1 snow cover in the Olympic Basin is much below normal, with the Elwah at 40% of average and the Dungeness at 43%. The Mount Crag SNOTEL near Quilcene had 17.9 inches on May 1; last year it had no water. Temperatures were two degrees above normal for April.

For more information contact your local Soil Conservation Service office.

OLYMPIC PENINSULA RIVER BASINS

Streamflow Forecasts - May 1, 1993

Forecast Point	Forecast Period	<<----- Drier ----- Future Conditions ----- Wetter ----->>						
				Chance Of Exceeding *				30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
DUNGENESS RIVER nr Sequim	MAY-SEP	75	89	98	70	107	121	140
	MAY-JUL	62	73	80	71	87	98	112
	MAY-JUN	41	50	57	72	64	73	79
ELWHA RIVER nr Port Angeles	MAY-SEP	225	270	300	70	330	375	427
	MAY-JUL	179	215	240	70	265	300	342

OLYMPIC PENINSULA RIVER BASINS Reservoir Storage (1000 AF) - End of April

OLYMPIC PENINSULA RIVER BASINS Watershed Snowpack Analysis - May 1, 1993

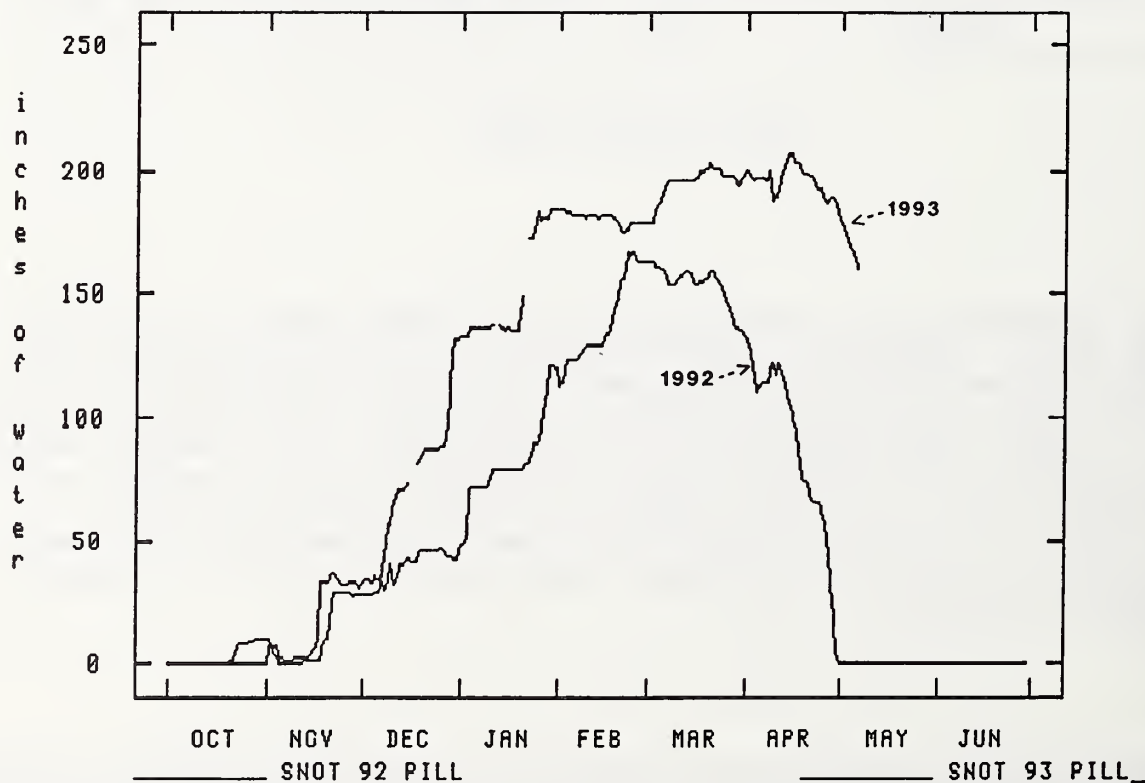
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					Elwha River	1	0	40
					Morse Creek	1	110	53
					Dungeness River	1	889	43
					Quilcene River	0	0	0
					Wynoochee River	0	0	0

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

Station : 23B06S, MOUNT CRAG



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The Following Organizations Cooperate With The Soil Conservation Service In Snow Survey Work

Canada:	Ministry of the Environment, Water Investigations Branch, Victoria, British Columbia
States:	Washington State Department of Ecology Washington State Department of Natural Resources
Federal:	Department of the Army Corps of Engineers U.S. Department of Agriculture Forest Service U.S. Department of Commerce NOAA, National Weather Service U.S. Department of the Interior Bonneville Power Administration Bureau of Reclamation Geological Survey National Park Service Bureau of Indian Affairs
Local:	City of Tacoma City of Seattle Chelan County P.U.D. Pacific Power and Light Company Puget Sound Power and Light Company Washington Water Power Company Snohomish County P.U.D. Colville Confederated Tribes Spokane County Yakima Indian Nation
Private:	Okanogan Irrigation District Wenatchee Heights Irrigation District Newman Lake Homeowners Association

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.



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